EXHIBIT B-3
Buckman Direct Diversion Project: Owners' Consulting Engineer Agreement
Scope of Work for Phases B, C, D and E

Introduction

The Owners' Consultant's (OC's or Engineer's) detailed scope of work has been separated into five phases to mirror the approach outlined by the Owners' RFP. The first phase of work, "Phase A: Conceptual Design of the Design Build (DB) Process" was authorized on April 15, 2005. The work produced under Phase A has allowed the development of the Phases B, C, D and E Scope of Work as shown in the following table. The phases included under this Scope of Work are:

- Phase B: Procurement Documents for the DB Process (including Preliminary Engineering and Operations Staffing)
- Phase C: Procurement Process for the DB Contractor
- Phase D: Implementation of DB Contract
- Phase E: Program Support Activities

Scope of Services Tasks
Phase B: Procurement Documents for DB Process
Task B1 – Execute Permit Plan
Task B2 – USEPA NPDES Sediment Return Permit
Task B3 – Conduct Site Studies
Task B4 – Prepare Step Two Request for Proposals
Task B5 – Prepare Draft DB Contract
Task B6 – Develop Owners Staffing Plan
Task B7 – NHPA Compliance for Archaeological and Historical Sites
Task B8 – Preliminary Design
Phase C: Procurement Process for DB Contractor
Task C1 – Conduct Step One of the DB Procurement Process
Task C2 – Conduct Step Two of the DB Procurement Process
Task C3 – Negotiate the DB Contract
Phase D: Implementation of DB Contract
Task D1 – Review of DB's Design Submittals
Task D2 – Review of DB's Construction Submittals
Task D3 – Construction Monitoring and Special Inspections
Task D4 – Operations and Maintenance Assistance
Phase E: Program Support Activities
Task E1 –Project Communications
Task E2 – Update Project Schedule
Task E3 – Community Outreach
Task E4 – Capital Budget and Funding Plan
Task E5 – Ongoing Risk Management Process

Unless otherwise noted, the deliverables made to the Owners, such as meeting minutes, technical memoranda and reports, will be provided as electronic documents delivered via e-mail except for

those items that can not be transmitted due to file size limitations. In addition, an electronic PDF file of those deliverables will be placed on the Project eRoom by the OC. Ten paper copies of reports and drawings and specifications developed by the Engineer will be provided upon the Owners' request.

Basic Services

Phase B: Procurement Documents for DB Process

Task B1—Execute Permit Plan

Objective

As outlined in the Phase A Permit Plan, the Owners' Consultant (OC) will work with various agencies to obtain numerous permits, easements, and other regulatory approvals for the Buckman Direct Diversion Project (referred to herein as the Project). There are additional permits and approval requirements that will be started by the Engineer and finalized by the DB Contractor, and there are permits and approval requirements that will be completely addressed by the DB Contractor. Those items to be addressed solely by the DB Contractor are not included in this task, but are included under Tasks D2 and E4. The NPDES Sediment Return Discharge Permit is included in Task B2.

Approach

The Engineer will prepare applications, and other information, and make every reasonable effort to obtain for the Owners the following permits, easements, and other regulatory requirements:

- US Army Corps of Engineers Permits for Diversion (Intake) Structure and Arroyo Crossings
- Application and Supporting Documentation for Bureau of Land Management and US Forest Service Right-of-Way, Temporary Use, and Special Use Permits
- NM Department of Transportation Permit to Install Utility Facilities within Public Right-of-Way
- Wildlife Protection Measures
- NM Environment Department Ground Water Quality Bureau Liquid Waste Permit, Ground Water Discharge Permit, and Pollution Prevention Section Notice of Intent (Subtask B1.5)
- NM Environment Department Air Quality Bureau Permit
- Private Property Easement Acquisitions
- NM State Land Office Application for Right-of-Way Easement
- Utility Coordination Plan
- Revised Plan of Development for USFS and BLM
- Santa Fe County Right-of-Way for piping along Caja del Rio Road

A "reasonable effort" for obtaining permits and easements is in general the Engineer's development of materials, a series of meetings, preparation of an application packet, response to

agency comments and submission of a revised application packet in a timely manner. These "reasonable efforts" are further defined in the following subtasks. Engineer work beyond the "reasonable efforts" may be provided by the Engineer through the additional services.

In addition, the Engineer will identify and resolve all issues for permits shared by the Engineer and the DB Contractor so that the DB Contractor can obtain the shared permits in a timely manner once the balance of the permitting material is prepared by the DB Contractor. The Engineer will also provide monitoring of the DB Contractor's permitting effort to see that the remaining permits, easements, and other regulatory requirements (Task D2) are submitted in a timely manner.

As discussed in the Permit Plan under Task A4, the Engineer will continue coordination with each of the regulatory agencies for updated and/or ongoing assessments of the requirements for the Project. Likewise, the Engineer will monitor regulatory updates and modifications to the agency regulations.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Subtask B1.1—Develop US Army Corps of Engineers Permits for Diversion (Intake) Structure and Arroyo Crossings

Objectives

The Engineer will obtain Section 404 permits as required under the Clean Water Act (CWA) for construction in jurisdictional waters of the United States at the intake (diversion) structure and at arroyo crossings, as deemed an Engineer responsibility through the Permit Plan.

Approach

To obtain the permits for the diversion structure and arroyo crossings, the Engineer will submit two Section 404 permit applications to the United States Army Corps of Engineers (USACE) – an Individual Permit application for the intake structure and a Nationwide Permit application for the arroyo crossings. The permits must be obtained prior to construction at the subject sites; construction could proceed across arroyos while the intake structure permitting process proceeds.

Prior to Section 404 permit application, the Engineer will complete land surveys to accurately map the project boundaries and preliminary design will be needed to determine the footprint of the intake structure. The Engineer will complete field delineation prior to the application to identify the location and extent of the jurisdictional waters.

Prior to submitting the applications, the Engineer will have a pre-application meeting with the USACE to discuss project particulars and determine exactly what permit conditions apply. If wetland mitigation is required, the DB Contractor will identify the wetland mitigation site and will design and construct the mitigation.

Assumptions

- USACE will allow the permitting and construction to proceed under two separate applications (as outlined above)

- Surveying for the right-of-way (ROW) will be completed under Task B3
- The Engineer will determine the applicable preliminary design elements under Task B8
- The USACE will permit the project with the information available from the preliminary design, jurisdictional waters delineation, and land survey
- The Engineer will attend two meetings in Albuquerque with the USACE during the Section 404 permitting process
- Regular communication with USACE will be necessary and will be accomplished via email and telephone correspondence
- No application or permitting fees will be required by USACE for this process
- Wetland mitigation will not be required to complete the permits
- Section 404 compliance monitoring will be performed by the Engineer during Phase D

Deliverables

- The Engineer will submit two Section 404 permit applications to the USACE
- The Engineer will address all USACE comments and resubmit Section 404 permit applications
- The Engineer will submit meeting minutes from all USACE meetings

Subtask B1.2—Prepare Application and Supporting Documentation for Bureau of Land Management and US Forest Service Right-of-Way, Temporary Use, and Special Use Permits

Objectives

The Engineer will obtain all required right-of-ways (ROWs) and permits for the Project for Bureau of Land Management and US Forest Service managed lands. The ROWs and permits must be obtained prior to conducting any land disturbance activities on the subject lands. Temporary use authorizations are required prior to Project-related work in areas outside the officially designated ROW (e.g. equipment and material staging, passing areas, construction water sources, fill or borrow areas).

Approach

The City already holds ROWs and Special Use Permits with both agencies for the Buckman Well Facilities. Through an application for ROWs and Special Use Permits and through the issuance of a signed Record of Decision (ROD) and Final EIS, the agencies will issue new ROW, Special Use and Temporary Use Authorizations.

The Engineer will update existing ROW and Special Use Permit applications submitted by the applicants several years ago with the currently available information and in combination with the updated Plan of Development.

ROW and Permit stipulations will include requirements such as submittal of additional plans (i.e., Traffic Control Plan, Spill Prevention Plan, Fire Prevention Plan, etc.); submittal of documentation of other permit approvals (e.g. CWA Section 404), and approval by the agencies of certain facility criteria such as building colors and tree removal and use.

Assumptions

- Three meetings with the BLM and/or the USFS will be required at the Project area or in Santa Fe
- Surveying for the ROW will be completed under Task B3
- If additional land is needed for the treatment plant, the additional ROW may be pursued under an additional services item
- The Engineer will determine the applicable preliminary design elements under Task B8
- The BLM and/or USFS will authorize new ROWs and Permits (with stipulations) for the Project with the information available from the preliminary design and land survey
- Regular communication with the BLM and USFS will be necessary and will be accomplished via email and telephone correspondence
- No application or permitting fees will be required by BLM and/or USFS for this process

Deliverables

- The Engineer will submit all necessary applications and information to the BLM and USFS, and will provide the Owners with copies of material
- The Engineer will address all BLM and USFS comments and resubmit the applications and requested revised information with copies to the Owners
- The Engineer will submit to the Owners meeting minutes from all BLM and USFS meetings

Subtask B1.3—Develop NM Department of Transportation Permit to Install Utility Facilities within Public Right-of-Way

Objective

The Engineer and DB Contractor will obtain the NM Department of Transportation (NMDOT) "Permit to Install Utility Facilities within Public Right-of-Way," as previously determined to be a shared Engineer and DB Contractor responsibility through the Engineer's Permit Plan. The task objective is to obtain written consensus from NMDOT that the permit is complete pending submission of satisfactory information from the DB Contractor.

Approach

Five applications for NMDOT approval will be prepared and submitted by the OC: (1) ROW along NM 599; (2) the jacking and boring (J/B) location at Airport Road and NM 599; (3) the J/B location at NM 599 and Interstate 25; (4) the J/B location at NM 599 north of South Meadows Drive; and (5) the J/B location at the western Santa Fe River crossing..

NMDOT will allow the permitting process to be split into two phases. For the first phase, the Engineer will prepare Plan Drawings (under Task B8) with the pipeline alignment(s) and applicable survey documentation (under Task B3) for NMDOT review after the Engineer's preliminary design. Phase 2 will be the responsibility of the DB Contractor, see Task D1.

Phasing of the NMDOT permitting process will eliminate the risks associated with the DB Contractor not being able to negotiate the ROW along the controlled access highway and will lessen the potential for claims for change orders and an extended construction schedule.

As a part of the Project pre- and post-construction activities, the existing Caja del Rio Road will be utilized as a haul route. During the pre-construction activities, Caja del Rio Road will be used to haul construction materials for the diversion (intake) structure, booster stations, pipelines, and the water treatment plant (WTP). During the post-construction activities, Caja del Rio Road will be used to haul sand/sludge from the river and sludge from the WTP. Prior to the use of this Road, the Engineer will prepare and submit two letters to the NMDOT and the Santa Fe County Public Works Department (PWD) to notify each agency of the Road's use.

Assumptions

- NMDOT will allow the permitting process to proceed in two phases (as outlined above)
- The Engineer will only prepare Plan Drawings (not Profile Drawings) with the pipeline alignment(s) after preliminary design under Task B8
- Surveying for the NMDOT ROWs will be completed under Task B3. However, prior to entering the ROW, the Engineer will prepare a letter to NMDOT to request the right to enter for the surveying work
- The Engineer will attend four meetings/site visits with NMDOT and/or Santa Fe County PWD during their application/letter reviews
- Regular communication with NMDOT will be necessary and will be accomplished via email and telephone correspondence
- No application or permitting fees will be required by NMDOT for this process

Deliverables

- The Engineer will submit the first phase of the NMDOT "Permit to Install Utility Facilities within Public Right-of-Way" application by preparing the Plan Drawings with the pipeline alignment(s) and appropriate NMDOT application forms
- The Engineer will prepare two letters to NMDOT and the Santa Fe County PWD prior to the use of Caja del Rio Road, to advise each agency of the Road's use
- The Engineer will submit to the Owners meeting minutes from all NMDOT and/or Santa Fe County PWD meetings
- NMDOT letter or Engineer documentation of NMDOT's concurrence that the permit will be approved pending submission of satisfactory information from the DB Contractor

Subtask B1.4— Compliance with Wildlife Protection Measures

Objectives

The Owners are currently engaged in consultations with the United States Fish & Wildlife Service (USFWS). Stipulations for project design and construction are expected as a result of the consultations.

The Engineer will develop a Cultural and Environmental Protection Plan that will guide environmental compliance for the Project and will include the implementation requirements necessary to comply with the commitments and stipulations from the EIS, ESA consultation, applicable regulations, and permits. The Engineer will coordinate with the USFS and other agencies to obtain concurrence regarding wildlife protection and impact mitigation measures for the Project. The Engineer will develop requirements from the protection measures for the DB proposal documents and the contract documents.

Approach

The draft measures will be developed by the Engineer as part of the Cultural and Natural Environment Protection Plan during Phase B. After completion of the Final EIS and ROD, the Plan will be updated by the Engineer to include any new or changed National Environmental Policy Act (NEPA) commitments. The USFS and other agencies will be requested by the Engineer to review and concur that the Plan meets the intent of the environmental commitments found in the NEPA documents and other consultation documents. The Engineer will incorporate approved measures into the Step Two Request for Proposal (RFP) under Task B4. Topics covered include: USFWS Threatened and Endangered Species, NMDGF Special Status Species, Migratory Birds, and Raptors.

Assumptions

- The Cultural and Natural Environment Protection Plan will include provisions and measures for management of water resources, erosion, (re)vegetation, noxious weeds, migratory birds, general wildlife considerations, and raptors
- Information needed to develop resource protection plans is included in the NEPA documents and existing regulations
- The plans will be developed by the Engineer using the information in the most recent version of the EIS available at the time
- Regular communication with the USFS and other agencies will be necessary and will be accomplished via email and telephone correspondence by the OC
- The Engineer will attend two meetings with the USFS and other agencies during their application reviews
- The environmental requirements and constraints will be developed using the information in the most recent version of the Environmental Information Statement (EIS) at the time
- The Endangered Species Act Section 7 Consultation has been completed between the Bureau of Land Management (BLM), US Forest Service (USFS), and US Fish and Wildlife Service (USFWS)
- Documentation is available from the National Environmental Policy Act (NEPA) Administrative Record in the form of a Biological Opinion or US Fish and Wildlife Act Coordination Report specifying measures to be taken to protect wetlands and aquatic species
- Information needed to develop the specific design requirements for the prevention of fish entrainment and other environmental specifications is included in the NEPA documents and existing regulations

Deliverables

- The Engineer will obtain USFS concurrence that wildlife protection and impact mitigation measures are consistent with the NEPA and other consultation documents
- The Engineer will submit meeting minutes from all agency meetings

Subtask B1.5—Develop NMED Ground Water Quality Bureau Liquid Waste Permits, Ground Water Discharge Permits, and Pollution Prevention Section Notice of Intent

Objective

The Engineer will obtain the applicable NMED Ground Water Quality Bureau (GWQB) discharge permits for the Project facilities as previously determined to be an Engineer responsibility through the Permit Plan.

Approach

The Engineer will obtain NMED required permits for all the different waste streams of the Project at the different facilities: near river facilities, sediment removal facility, booster stations, pipelines, and water treatment plant. In addition, the special permits will be required for the solids handling and storage at the sediment removal facility and the water treatment plant.

Wastewater design flows will be determined by the Engineer and the appropriate GWQB permit will be completed. If the design flows are less than 2,000 gallons per day (gpd), a "NMED Liquid Waste Permit" will be submitted by the OC. If the design flows are greater than 2,000 gpd, a "Ground Water Discharge Permit Application" will be submitted by the OC. If the latter is required, the Engineer will submit the application package pursuant to the current NMAC regulations with the appropriate discharge characteristics, operational plans, and soil information.

The Engineer will also complete a "Ground Water Quality Bureau – Pollution Prevention Section Notice of Intent" form if during preliminary design it is determined that any plant process waste stream will be held in a retention pond(s).

Assumptions

- Sanitary sewers will not be provided at locations near the new Project facilities
- Pumping facilities will not be provided to convey wastewater to the City's existing wastewater treatment facility on Airport Road
- Wastewater design flows will be determined under Task B8
- Overflow rates will be determined under Task B8
- The Owners will pay the applicable GWQB permit application filing fees
- The Engineer will attend two meetings/site visits with the GWQB during their application reviews
- Regular communication with the GWQB will be necessary and will be accomplished via email and telephone correspondence

Deliverables

- As applicable, the Engineer will submit the GWQB "NMED Liquid Waste Permit"
- As applicable, the Engineer will submit the GWQB "Ground Water Discharge Permit Application"
- The Engineer will submit the "Ground Water Quality Bureau – Pollution Prevention Section Notice of Intent" form
- The Engineer will submit to the Owners minutes from all GWQB meetings

Subtask B1.6—Develop NM Environment Department Air Quality Bureau Permit

Objective

The Engineer will obtain applicable NMED Air Quality Bureau (AQB) "Air Quality Notice of Exemption" or "Air Quality Permit Application and Notice of Intent," as well as the "New Source Permit (Part 72 Application)," if required, as previously determined to be an Engineer responsibility through the Permit Plan.

Approach

The AQB requires permitting of all combustible sources, including the standby generators to be located at the WTP.

The standby generator operation time will be determined by the Engineer and the appropriate AQB permit will be completed. If the operation time is less than 500 hours per year (hpy), an "Air Quality Notice of Exemption" will be submitted by the OC. If the operation time is greater than 500 hpy, an "Air Quality Permit Application and Notice of Intent" will be submitted by the OC. If the latter is required, the Engineer will submit the application package pursuant to the current NMAC regulations with the appropriate generator characteristics, operational plans, and facility information.

The AQB may also require a "New Source Permit (Part 72 Application)" for ozonation processes for water treatment.

The water treatment processes at the WTP will be determined by the Engineer with the Owners. If ozonation is selected, the Engineer will consult with the AQB and provide to them theoretical emissions calculations to demonstrate that a "New Source Permit" will not be required.

The Santa Fe County Land Use Department (LUD) requires an air quality management plan in the event air quality is impacted by the Project. The Engineer will submit the applicable AQB documentation to satisfy the LUD.

Assumptions

- The only combustible source at the WTP will be the standby generator
- The only process requiring a "New Source Permit" by the AQB is an ozonation system
- The AQB documentation will be sufficient for meeting the LUD requirements

- The standby generator operation time will be determined under Task B8
- The use of ozone at the WTP for water purification will be determined under Task B8
- The Engineer will attend two site visits/meetings with the AQB during their application reviews/consultations
- Regular communication with the AQB will be necessary and will be accomplished via email and telephone correspondence
- No application or permitting fees will be required by AQB for this process
- It is assumed that air quality modeling will not be required for this permitting process. If it is required, modeling will be provided by the Engineer under an additional services task
- In the event that the AQB requires a "new Source Permit," this work will be completed as an additional services item

Deliverables

- As applicable, the Engineer will submit the AQB "Air Quality Notice of Exemption"
- As applicable, the Engineer will submit the "Air Quality Permit Application and Notice of Intent"
- The Engineer will submit meeting minutes from all AQB meetings

Subtask B1.7—Prepare Private Property Easement Acquisitions

Objective

The Engineer will obtain private easements through private properties by assisting the Owners in acquiring the easements, as previously determined to be an Engineer responsibility through the Permit Plan.

Approach

One portion of the distribution pipeline from the WTP must cross private property within Santa Fe County and the extraterritorial zone of the City. The size of the pipeline, between NM 599 and the Santa Fe River, will be determined during preliminary design by the Engineer (under Task B8).

The Engineer will determine the property owners and locations through coordination with the Santa Fe County Tax Assessor. At the time Task A4 was completed, there were four separate property owners. However, as a part of this Task (B1), the Engineer will coordinate with the Santa Fe County Tax Assessor to determine if the property owners identified in Task A4 have changed.

Once the Engineer has identified the property owners for the Owners' use in negotiating and purchasing easements, the Engineer will prepare the Access Agreements for obtaining property access for the parcel surveys. The Engineer will then prepare the documentation, including parcel survey, easement characteristics (width, length, etc.), and legal descriptions, for acquisition of the permanent and temporary easements through the private properties.

Assumptions

- The Engineer will prepare up to six Access Agreements for property access for the parcel surveys
- Up to six private property easements will be surveyed with legal descriptions prepared for the Owners' negotiations under Task B3
- Property assessments for the easement negotiations will be completed by the Owners' staff
- The Engineer will attend six site visits/meetings with the Owners' staff and private property owners
- Regular communication with the Owners' staff and/or private property owners will be necessary and will be accomplished via email and telephone correspondence
- If property easements can not be obtained by the Engineer from one or more property owner by the above procedures, the acquisition process for the unobtainable easement agreements will be turned over to the Owners' legal counsel for completion.

Deliverables

- Up to six written legal description documents (with survey plats and easement characteristics) for use in assessments and easement negotiations – both temporary and permanent – will be prepared by the OC
- The Engineer will submit meeting minutes from all meetings with the Owners' staff and/or private property owners

Subtask B1.8 - Prepare NM State Land Office Application for Right-of-Way Easement

Objective

The Engineer will obtain the NM State Land Office (SLO) Right-of-Way Easement for acquiring the easements for new utility installations across State lands, as previously determined in Phase A as an Engineer responsibility through the Permit Plan.

Approach

Two applications for approval will be submitted by the Engineer to SLO, one for each of the locations of pipeline installation (approximately 0.75 mile total) included in the Project.

For each application package, the Engineer will first prepare a notice of intent to conduct a survey of each proposed location. Upon receipt of the right of entry, the Engineer will prepare the "Application for Right-of-Way Easement" with the appropriate documentation, including parcel survey, easement characteristics (width, length, etc.), and legal descriptions, for acquisition of the easements through the State lands.

Follow up documentation (i.e., Affidavit of Completion) will be completed by the Engineer upon construction completion within the ROW.

Assumptions

- Up to two easements will be surveyed with legal descriptions prepared for the acquisition along State lands under Task B3
- The Owners will pay the applicable SLO application filing, appraisement, and bond fees
- The Engineer will attend four site visits/meetings during their application reviews/consultations
- Regular communication with the SLO will be necessary and will be accomplished via email and telephone correspondence

Deliverables

- The Engineer will prepare up to two notices of intent to conduct a survey of each proposed location for SLO
- The Engineer will submit up to two "Affidavit of Completion" documents with the SLO upon completion of construction within the ROW
- The Engineer will submit meeting minutes from all meetings with the SLO

Subtask B1.9—Obtain Extraterritorial Development Permit

Objectives

The Engineer will obtain a Santa Fe Extraterritorial Zoning Development permit before construction begins within the Extraterritorial Zone District. The Extraterritorial Zone Development Permit is required before development is allowed to occur and in order to receive a building permit from the New Mexico Construction Industries Division.

Approach

The Engineer will schedule a pre-application conference with the Santa Fe County Land Use and Code Administrator to review plans in schematic form, and any other supplemental materials which will assist the Administrator in interpreting the project to the extent needed to provide appropriate information to the applicant regarding submittals, applications, analysis of existing conditions, required improvements, scheduling for public hearing, and applicable regulations. The Engineer will submit an application no less than 23 working days prior to the regularly scheduled meeting of either the Extraterritorial Zone Commission (EZC) and post required notices on the property and in the newspaper.

The Engineer will be available to answer any questions or concerns from the Administrator, review agencies, the EZC, or the Extraterritorial Zoning Authority.

Assumptions

- Surveying for the application requirements will be completed under Task B3
- The Engineer will determine the applicable preliminary design elements located within the Extraterritorial Zone District under Task B8
- The EZA will permit the Project with the information available from the preliminary design and land survey

- The Engineer will attend three meetings in Santa Fe with the Administrator (pre-application conference), the EZC, and the EZA
- Regular Engineer communication with Administrator will be necessary and will be accomplished via email and telephone correspondence
- Permit fees must be paid at the time that the permit is granted and will be paid for by the Owners

Deliverables

- The Engineer will submit an application for a permit to develop in the Extraterritorial Zone District to the County Land Use and Code Administrator
- The Engineer will address all comments and resubmit the permit applications if necessary
- The Engineer will submit meeting minutes from all Extraterritorial Zone development meetings

Subtask B1.10—Revised POD for USFS and BLM

Objectives

The Engineer will prepare and receive BLM and USFS agency approvals for a Plan of Develop and Operations (POD) Report for the Project. In combination with the BLM and USFS ROW, Special Use Permit and Temporary Use Authorizations discussed elsewhere in this document, a POD report is required. A POD is always required for projects that require an EIS and/or are large in scope. BLM and USFS requested a POD for this project for use in preparing the EIS and a draft POD was prepared and submitted on February 13, 2002. The draft POD had information missing and some of it is outdated. As such, a revised POD will be necessary.

Approach

The Engineer will prepare a revised POD, although a substantial amount of the documentation cannot be completed until final design and within the stipulations of the ROWs. With the exception of temporary use areas and surveying of legal descriptions, the information required for the POD does not require completion until just prior to initiating construction. The temporary use areas and surveying of legal descriptions must be completed prior to issuing the ROW way documents as described earlier in this document.

Assumptions

- Surveying for the right-of-way (ROW) will be completed under Task B3
- The Engineer will determine the applicable preliminary design elements under Task B8
- The BLM and USFS will permit the Project with the information available from the final design and land surveys
- The Engineer will attend three meetings in Santa Fe with the BLM/USFS to make sure the POD meets expectations
- Regular communication with BLM/USFS will be necessary and will be accomplished via email and telephone correspondence

- No application or permitting fees will be required by BLM/USFS for this process
- Compliance monitoring, if necessary, will be completed during Phase D

Deliverables

- The Engineer will submit a revised POD to the BLM/USFS
- The Engineer will address all BLM/USFS comments and resubmit the POD
- The Engineer will submit meeting minutes from all BLM/USFS meetings

Subtask B1.11—Santa Fe County ROW for Caja del Rio Road Pipeline

Objectives

The Engineer will obtain Santa Fe County approval for a new right-of-way along Caja del Rio Road for the Project pipelines. Per the Santa Fe County Ordinance, 2003-01, constructing a pipeline within a ROW for a County Road requires an application and approval from the Santa Fe County Public Works Department. Caja del Rio Road is a County Road and the distribution pipelines planned along Caja del Rio Road will be within the road ROW. A portion of this ROW is within State Lands also and must be permitted by both agencies.

Approach

The Engineer will submit a permit application including licensing, insurance and bonding information; a video of the ROW prior to disturbance to establish pre-existing conditions; traffic control plan; dates of construction; and dimensions. The application also requires a $15,000 bond be on file with County Public Works for the duration of the work. The fees associated with the application are $75.00 per 600 feet of ROW. The work along this ROW, as well as all others, will require revegetation as a stipulation of the ROW. Per the ordinance, the application will be reviewed and processed within five days.

Assumptions

- Surveying for the right-of-way (ROW) will be completed under Task B3
- The County will permit the project with the information available from the preliminary design and land surveys
- The Engineer will attend two meetings in Santa Fe with the County Public Works to see that the permit application is completed
- Assumed that DB Contractor's bond will be submitted to County
- Regular communication with Santa Fe County Public Works will be necessary and will be accomplished via email and telephone correspondence.
- The Owners will pay the application fees, unless they are waived by Santa Fe County
- Compliance monitoring, if necessary, will be completed during Phase D

Deliverables

- The Engineer will submit a permit application to the Santa Fe County Public Works Department

- The Engineer will address all comments and resubmit the permit application, if necessary
- The Engineer will submit meeting minutes from all meetings with Santa Fe County Public Works Department

Subtask B1.12—County Landfill Residuals Disposal Plan

Objective

The Engineer will prepare a plan for disposal of residuals as cover material for the Santa Fe County landfill, as previously determined to be an Engineer responsibility through the Permit Plan. The Engineer will coordinate the plan with the County to obtain preliminary approval for disposal of the Project residuals.

Approach

As stated in the Permit Plan, the preferred disposal methodology for the sand/silt from the river is sediment return to the river, authorized under a Sediment Discharge NPDES Permit with the USEPA (refer to Task B2). However, in the event that the Sediment Discharge NPDES Permit cannot be obtained from USEPA, the Engineer will develop a plan for disposing of residual solids as landfill cover. During preliminary design (Task B8), the Engineer will determine the approximate quantities of residuals requiring disposal from both the river and the WTP.

The Engineer will also determine permitting and/or approval requirements for disposing of solids at the County landfill, and will work with the County on receiving preliminary approval for disposing of the solids.

Assumptions

- Alternative uses and disposal methods will be developed by the Engineer under Task B8
- The approximate quantities of sand, silt, and sludge will be determined under Task B8
- Regular communication with the various agencies (i.e., Santa Fe Solid Waste Management Agency, NMED Solid Waste Bureau, etc.) will be necessary and will be accomplished via email and telephone correspondence.

Deliverables

- A Plan for landfill disposal of the sand/silt from the river and the coagulated sludge from the WTP will be prepared by the OC
- The Engineer will submit meeting minutes from all meetings related to the disposal of solids at the County landfill

Subtask B1.13—Prepare Utility Coordination Plan

Objective

The Engineer will prepare a Plan for coordination with the various utility companies for establishing procedures and standards for crossing existing facilities during the installation of the Project pipelines, as deemed an Engineer responsibility through the Permit Plan. These procedures and standards will be further developed by the Engineer as requirements for the DB

proposers and DB Contractor as part of the Engineer's Preliminary Design to minimize risk to the Owners of change orders or schedule delays related to coordination with utilities.

Approach

The proposed ROW for the new pipeline(s) and buried electric service is adjacent or crosses numerous existing utilities, both buried and overhead. As the pipeline alignment(s) are finalized during the Engineer's preliminary design (Task B8), a Plan discussing the requirements of constructing facilities adjacent to or crossing the existing utilities (water, sewer, electric, gas, effluent and/or fiber optic lines) will be prepared by the Engineer under this Task (B1).

As a part of this Plan, a determination of special construction methods, cathodic protection needs, distances, or other requirements will be outlined. The Engineer will also determine permitting and/or approval requirements with each utility authority as a part of this Task.

Assumptions

- The pipeline alignment(s) will be finalized under Task B8
- Drawings and utility locations will be provided by each utility and surveyed under Task B3
- The Engineer will attend eight site visits/meetings with the various utility authorities during the utility coordination activities
- Regular communication with the various utility authorities (i.e., PNM, Qwest, etc.) will be necessary and will be accomplished via email and telephone correspondence

Deliverables

- A Plan for discussing the requirements of constructing facilities adjacent or crossing the existing utilities (water, electric, gas, and/or fiber optic lines) will be prepared by the OC
- The Engineer will determine special construction methods, cathodic protection needs, distances, or other requirements in the Plan
- The Engineer will also determine permitting and/or approval requirements with each utility authority in the Plan
- The Engineer will submit meeting minutes from all meetings with the various utility authorities

Task B2—US Environmental Protection Agency NPDES Sediment Return Discharge Permit

Objective

The Engineer will lead the effort in obtaining the US Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Sediment Return Discharge Permit, as previously determined to be an Engineer responsibility through the Permit Plan, per the strategy proposed herein.

Approach

For the sediment discharge NPDES permit, two efforts will be undertaken concurrently by the OC: obtaining the NPDES permit from USEPA and obtaining New Mexico Environment Department Surface Water Quality Bureau approval of the antidegration review. The Engineer will implement the proposed strategy with the Owners and Las Campanas for obtaining an NPDES permit as outlined in a memorandum to the Owners from the Engineer dated August 12, 2005. Under this strategy, there will be sequential meetings with NMED, USEPA NPDES Permit staff, New Mexico's U.S. Congressional delegation and/or the USEPA Region 6 Administrator in an effort to obtain high level support of water quality based effluent limits for the permit. Under this task, the Engineer will prepare preliminary documentation in preparation for all meetings, including anticipated changes in water quality and the antidegradation review process.

Compensation

The Engineer shall be compensated for this task on a labor and expenses basis, as described in Exhibit C.

Assumptions

- A new application may be required for the USEPA sediment discharge permit or minor modifications to the previous draft submittal and transmittance of additional information will be completed by the OC
- A total of two meetings will be held in Santa Fe with member(s) of the New Mexico Congressional delegation to discuss the importance of obtaining the sediment return permit based upon background water quality
- Two meetings in Dallas with USEPA Region 6 ; one with staff and one with the Administrator about the sediment return NPDES permit
- Three meetings with NMED to discuss certification of a NPDES permit for sediment return and antidegradation review
- A public hearing will be required for the antidegradation review. The hearing will be scheduled as part of an Outreach public meeting (Task E3), but will require a hearing officer assigned by the Water Quality Control Commission and audiotaping of the hearing.
- Ongoing consultation with NMED and/or USEPA as the permit goes to hearing will be required
- Permit and applications fees will be paid for separately by the Owners

Deliverables

- Minor modifications to the previous draft USEPA Sediment Discharge NPDES Permit application documentation will be completed by the OC
- Application and supporting materials for antidegradation review
- Briefing packages for meetings with permitting agency(ies) will be prepared by the OC
- Meeting summaries for all meetings with Owners and/or permitting agency(ies) will be completed by the OC

Task B3—Conduct Site Studies

Subtask B3.1—Surveying

Objective

The Engineer will conduct surveying activities for the Project to define limits of Project ROWs for incorporation into procurement documents and to finalize Plan of Development (POD) documents for negotiating ROW stipulations. Additional surveying will be completed by the Engineer to rectify inaccurate utility as-built locations throughout the Project area. Surveying activities by the Engineer will also support permitting activities outlined in Task B1.

Approach

A full legal description for all facilities and temporary use areas will be prepared by the Engineer for completion of the BLM and U.S. Forest Service ROWs. The survey will delineate the full legal description of the ROW and temporary use areas for the project. It is anticipated that the legal descriptions will be prepared mostly from existing data supplemented with field work. The survey work will be utilized to complete the ROW permitting and easement acquisition outlined in Task B1.

A ground survey will be completed by the Engineer in tandem with New Mexico One-Call utility locate service. The survey will rectify inaccurate as-built and permitted locations of all utilities (electric, sewer, gas, fiber optic, and water) throughout the Project area. Utilities will be surveyed for preparation of site drawings showing the utilities, ROW boundaries for the Engineer's preliminary design under Task B8. Additionally, the Engineer's survey will refine the as-built water line location between Booster Stations 1 and 2 to compliment the refinements made between Booster Station 2 and Las Campanas.

Under this task, the Engineer will set benchmarks at the near-river facilities, pump stations and treatment plant for use during construction.

The Engineer will evaluate and utilize available survey and mapping information from various sources to develop 2 ft. contour mapping for the entire project area. This mapping, with utilities, will be used in the Engineer's preparation of the Preliminary Design and will be provided to the DB short listed proposers and DB Contractor for final design of the Project.

The Engineer's surveying will also be used to stake the Project ROWs and locate other special project features.

The Engineer's surveying will be performed according to the standards published by the New Mexico Board of Registered Professional Engineers and Professional Surveyors.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- Previous electronic data collected by Dawson Surveys, Tom Mann, and Santa Fe County will be utilized by the OC. No new topographical data will be collected, and much of the legal description data will be taken from the existing data.
- Previously performed utility locates performed for Las Campanas and the County will be incorporated into the mapping
- Electronic survey files will be made available for short-listed DB proposers and the DB Contractor
- Utility companies will assist in locates through New Mexico One Call
- Surveying to develop easement description documents for Task B1 will be completed under this task for six separate properties
- Utility companies will not require a fee for locating utilities

Deliverables

- Full Project survey indicating 40-ft ROW and each 50-ft buffer zone, roadways and existing and proposed facility and upgrades roadway boundaries with legal descriptions for incorporation in agency ROW documentation needed for the Plan of Development, including electronic files
- Easement plats through up to six private properties
- Survey drawings for NMSLO and NMDOT applications
- Site survey maps showing the archaeological site boundaries, geotechnical investigation sites, utilities, and the 40-foot ROW boundaries

Subtask B3.2—Phase I Environmental Site Assessment

Objective

The Engineer will prepare a Phase I Environmental Site Assessment (ESA) of historical activities conducted at the Project sites to support an assessment of the potential for "cleanup" or mitigation being required during the DB Contractor's execution of the Project. The Engineer will conduct the ESA in accordance with ASTM's standard practice for conducting Phase I ESAs. The ESA will contain information regarding the recognizable environmental conditions (RECs) in the project area resulting from historical activities conducted thereon or from adjacent properties, and the Engineer will provide a Phase l ESA Report discussing the potential RECs at the Project sites.

Approach

Site Inspection and Vicinity Reconnaissance

The Engineer will inspect available historical aerial photographs that document past conditions at the sites. Subsequently, the Engineer will complete a reconnaissance inspection at the Project area to be conducted by an experienced environmental professional with particular attention to evidence that would indicate the presence, use and/or release of hazardous materials. Areas will also be inspected based on information obtained from historic aerial photographs and records search.

The Engineer's site inspection will include documentation of visual evidence of suspect current and/or past activities or features including the following:

- Storage and use of toxic or hazardous materials (in quantities exceeding normal "household" amounts) as well as non-hazardous lubricants, fuels, hydraulic fluids, or other petroleum products
- Pits, ponds, landfills, dumps, or waste streams
- Visible water or soil contamination, including on-site spills or releases
- Aboveground or underground storage tanks
- Drums or other storage containers
- The presence of electrical transformers, regulators, or other oil-filled equipment
- Readily observable evidence of distressed vegetation or topographic anomalies, such as depressions or mounds that suggest suspect subsurface conditions.

The Engineer's site inspection does not include an evaluation of property structures for the presence of asbestos, lead-containing materials, radon gas, or lead in water. The vicinity reconnaissance will include visual observation of adjacent properties, with the intent of identifying evidence of current or historical off-site activities having a potential for impacting the site. However, the Engineer will not enter adjacent properties.

Records and Database Review

This task includes an Engineer review of available federal, state, and local records and databases pertaining to the site and the surrounding area to determine whether there are any environmental permits, contaminated sites, or other recognizable environmental conditions located within one mile of the site.

At a minimum, NPL, CERCLIS, RCRA, and federal landfill inventory lists will be reviewed by the OC. In addition, State of New Mexico regulatory files, which include sites with underground storage tanks, spills, releases, water pollution incidents, and landfills will be reviewed as available. To the extent that such sites are listed in the vicinity, the Engineer will attempt to obtain reasonably available information in order to assess the potential impact to the site. Requests for information will be made in writing and via telephone, as necessary, to appropriate local, state, or federal agencies having jurisdiction over the sites and any suspected off-site environmental threats, to identify areas of environmental concern, compliance enforcement actions, or investigations involving hazardous material/wastes. Based upon reasonably available information, Engineer will provide its professional opinion as to the potential for the database listed sites to impact the site being evaluated.

Review of Historical Documentation

This task will include a review of reasonably available land use permits, historical topographic maps, and other historical records on the sites dating back at least 50 years (subject to reasonable availability of aerial photographs) in order to establish the pattern of historical use and a sequence of property ownership. This task will provide the basis for an evaluation of past ownership, uses, or activities that have been conducted on or around the site and adjacent properties, which may have resulted in environmental contamination and will include:

- Review of prior environmental assessment reports concerning the site and adjacent properties and other readily available information
- Photo interpretation of readily available historic aerial photographs
- Review of readily available USFS and BLM information
- Review of historic city and/or county directories
- A review of pertinent soil characteristics/geological information for the sites or adjacent sites that may be reasonably available from public agencies
- Review of documents pertaining to current and historic underground storage tanks at the site

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

The following assumptions have been made in preparing this scope and the related costs:

- Deeds, titles, recent and historical aerial photography, soil reports, and other reliable and accurate information, can be obtained by the Engineer from the City, County, BLM and USFS
- The Engineer will be able to access all portions of the Project
- No environmental sampling is included
- No title search is included

Deliverables

Following completion of the above tasks, the Engineer will prepare the Phase I ESA report for the sites. The report will contain investigation findings, conclusions and recommendations regarding RECs at the sites. The draft report will be submitted electronically to the Owners for review. Upon receipt of comments from the Owners, the Engineer will revise the report accordingly.

Task B4—Prepare Step Two Request for Proposals (RFP)

Objectives

The Engineer will prepare the second major procurement document (Step Two RFP) and continue the competitive proposal process initiated by issuance of the Step One RFP under the Owners' procurement rules for DB projects. The Step Two RFP will also take into account the Owners' objectives and criteria, the content and results of the Step One RFP, and the Project Manual developed in Phase A as well as prevailing standards and best practices in the municipal water DB industry.

Task B4 will incorporate the documents prepared under Phase A and Task B5 (Draft DB Contract) as well as other relevant work completed under Phase B (such as the preliminary design).

Approach

Draft and Final Step Two RFP

The Engineer will prepare a detailed outline of the Step Two RFP and a related matrix of RFP issues and recommendations for the Owners' review. The RFP matrix will outline the major areas where initial Owners input (beyond that provided during Phase A) to the RFP is required. This matrix will support and focus the Owners' review of Engineer recommendations and will guide the Engineer's drafting of the Step Two RFP.

Given the extensive scope of the Step Two RFP document, it will be divided into three volumes:

Volume I – Request For Proposals

Volume II – Draft DB Contract

Volume III – Preliminary Design and Technical Requirements

Each volume will be submitted by the Engineer as a complete draft document to Owners' for review and comment. Upon receipt of comments from the Owners, each volume will be revised and incorporated into the final "for issuance" Step Two RFP by the OC. Volumes II and III will be prepared by the Engineer under Task B4 and under Task B8 together with Phase A, respectively. Volume III will include appendices such as Raw Water Quality Data, Project Development Requirements, and Construction Standards.

The overall contents of the Step Two RFP document will reflect the Project Manual and the Owners' applicable procurement requirements, including (as applicable) the most recent version of the City Purchasing Manual. A preliminary listing of the major sections, subsections, and appendices of the Step Two RFP Volume I include:

Introduction
- Background
- Owners' Objectives
- Defined Terms

Instructions and Conditions
- Communications Protocol
- Information Sharing
- Site Access
- Owners' Rights

Project Scope and Requirements
- Design and Construction Requirements
- Initial Operation and Maintenance Requirements
- Operation and Maintenance Support Services
- Permits and Approvals
- Contract Terms
- Existing Conditions

Submittal Format and Content
- Format Requirements
- Technical Proposal Requirements
- Business Proposal Requirements
- Alternative Technical and Business Proposals

Evaluation Criteria and Selection Process
- Technical Proposal Evaluation Criteria
- Business Proposal Evaluation Criteria
- Best and Final Offer Proposals (if required)
- Rating and Selection Process

Appendices
- Performance Security Forms
- Funding Sources and Conditions
- Permit Requirements
- QA/QC Program
- Performance and Reliability Testing
- Insurance Requirements
- Monitoring and Reporting Requirements
- Local Subcontracting

Draft and Final Evaluation Methodology

A methodology (draft and final) will be prepared by the Engineer for the Owners' Evaluation Committee's use to apply the evaluation criteria set forth in the Step Two RFP to the Step Two submittals. The methodology will include four basic components: (1) responsiveness review, (2) Technical Proposal evaluation, (3) Business Proposal evaluation, and (4) selection process (i.e., overall combination of technical and business criteria). The selection process subsection of the Step Two RFP will describe how the Technical Proposal and Business Proposal criteria will be combined, recognizing that the Owners' applicable procurement rules must be followed. The final methodology will be prepared upon completion of the Owners' review and comment on the draft methodology. In preparing this methodology, alternative approaches will be presented and discussed with the Owners, including different methods of aggregating the scores of individual members of the Evaluation Committee and different numerical and non-numerical rating systems. An evaluation and selection protocol consisting of a scoring matrix will be developed by the Engineer that provides further breakdown of the evaluation criteria.

Shadow Proposal Process

After the completion of the Draft Step Two RFP and while the Owners are reviewing the draft documents, the Engineer will conduct an internal "Shadow Proposal" review process for the BDD Project. The Engineer Shadow Proposal Team will be comprised of water supply and treatment engineers and operation and construction personnel of the Engineer that are regularly engaged in the bidding and implementation of DB projects. The team members will be independent of the primary Project Team to provide an objective and realistic assessment of the Draft Step Two RFP.

The goal of the Shadow Proposal will be to highlight the potential for major weaknesses, costly requirements, misallocated risks, quality loopholes, or change order items that could result from the Draft RFP's contents. The Engineer Shadow Proposal Team will provide sketches (as may be required) and brief write-ups, but no cost estimate or bid. The Shadow Proposal Team will develop a risk assessment and recommendations for finalizing the RFP with respect to the Owners' objectives concerning cost, quality, time and risk. The Shadow Proposal review will be completed within approximately three weeks to allow timely finalization of the Step Two RFP.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- OC will have three meetings with the Owners to review the contents of the Step Two RFP in addition to other meetings under Phase B. When possible, these meetings will be combined with other Phase B meetings to minimize the Owners' workload.
- Shadow proposal process will generate limited documentation and will provide an assessment of the Draft Step Two RFP with recommendations for finalizing the RFP.
- One meeting with the Owners will be held to discuss the results of the Shadow Proposal process.

- Under Phase A, any conflicting procurement policies or rules of the Owners will be resolved by Owners' representatives with the assistance and concurrence of the OC; a single set of constraining rules or policies will be provided to the Engineer by the Owners.

Deliverables

- Detailed outline of Step Two RFP
- Matrix of key RFP issues and recommendations
- One complete draft of the Step Two RFP Volume I document
- Draft and final evaluation methodology for Step Two proposals
- 25 Final ("for issuance" under Engineer Phase C scope of work) Step Two RFP document and copies of CDs with PDF of complete Step Two RFP
- Shadow proposal assessment and recommendations
- Written meeting minutes

Task B5—Prepare Draft DB Contract

Objective

The Engineer will prepare and recommend to the Owners the draft DB contract document for the Owners' and Owners' legal counsel's review which the Engineer will then finalize and include as Volume II in the Step Two RFP.

Approach

The Engineer will prepare a recommended draft of the DB contract utilizing the standard form (or some combination of forms) that best meets the Owners' objectives and the guidance set forth in the Project Manual prepared in Phase A. While it would be preferable to utilize a standard DB contract form as the base document for the Project (since these forms reflect some level of industry consensus on language and approach to risk allocation and offer the benefit of predictable judicial interpretation), it must be noted that the standard forms tend to incorporate the biases of the publishing organization. In addition to these standard forms, two or three existing DB contracts utilized for major municipal water projects will also be evaluated by the OC, including contracts where Engineer was or is the DB Contractor and can therefore provide some valuable insights into the practical application of the contract provisions.

Regardless of the form or model recommended by the Engineer for use as the base document, the next and most important step in the process of preparing the draft DB contract is to carefully modify and tailor the contract provisions such that the obligations of the DB Contractor are clearly in concert with the Owners' objectives, criteria, requirements, and risk management strategy for the Project. The base document as well as the suggested modifications of the selected base document will be reviewed by the Engineer with the Owners' legal counsel, and upon approval, a draft of the proposed DB contract will be submitted by the Engineer to the Owners and Owners' legal counsel for review and comment. The comments made by the Owners and Owners' legal counsel will be addressed by the Engineer in the final draft of the DB contract that will be included as Volume II of the Step Two RFP.

The Engineer will add provisions to the draft DB contract as may be necessary for the initial operations and maintenance responsibilities of the DB Contractor or for support services for initial operations by the Owners, as well as for the subsequent operations and maintenance support services that may be provided by the DB Contractor to the Owners.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- A standard form or other existing contract will be utilized as the base document
- Multi-jurisdictional issues will have been resolved by the City, County, and Las Campanas so that contract development can proceed
- No more than four review meetings with the Owners and Owners' legal counsel will be necessary
- Written meeting minutes
- Active involvement of Owners' legal counsel, including the review of DB contract provisions for clarity and for enforceability under the laws (statutory and case law) of the State of New Mexico and other applicable jurisdictions

Deliverables

- Recommended base document for the DB contract
- Recommended revisions and modifications to the base document for review and approval by Owners' legal counsel
- Draft DB contract
- Final draft DB contract reflecting the detailed review and comments by the Owners' legal counsel to be included as Volume II of the Step Two RFP

Task B6—Develop Owners' Staffing Plan

Objectives

OC will develop a Staffing Plan for operating and maintaining the Project. The Staffing Plan will address the operation and maintenance needs for the raw water, treatment and distribution facilities, and will take into account the resources and needs of the Owners' existing and near-term planned facilities. The Staffing Plan will be developed to supplement the Engineer's Preliminary Design and technical/performance requirements, and to provide input into the DB procurement process. The Staffing Plan will also include Training Requirements and Schedule, Hiring Plan and Schedule, Transition Plan and Schedule, and Salary Survey and Recommendations. The O&M Transition Plan will address the additional activities that will need to be completed by the Owners to prepare for its operation and maintenance of the BDD Facilities.

Working with the Owners, the Engineer will identify the necessary staffing positions to satisfy the operation, maintenance, and management requirements of the Project facilities. The Staffing Plan will include requirements and timing for the training of existing and new staff by the DB

Contractor. The Plan will provide recommendations and requirements on phasing of the Owners' staff into the operation and maintenance of the BDD Facilities. Detailed requirements will be developed for the Step Two RFP and the DB contractual requirements for the training activities and durations to be provided by the DB Contractor.

The Engineer's Staffing Plan will build upon the decisions made in Phase A with respect to the DB Contractor's performance testing and, if any, operation and maintenance of the Project facilities. It is also anticipated that the O&M Transition Plan will build upon agreements between the owning partners in planning for the long term operating and maintenance of the facilities.

The Engineer's Staffing Plan will include a schedule for hiring of additional O&M staff and for training of staff. This task will also include the development of additional requirements for the DB procurement and contract documents for the training of the Owners' staff.

Approach

OC will work with the Owners to identify staffing needs, review existing staffing position descriptions, and assist in developing new job descriptions, if required, that are applicable to the operation, maintenance, and management of the new facilities.

If new job descriptions are needed, the Engineer will utilize existing job descriptions from the Owners, and other water agencies, as necessary, and work with the Owners to develop a Staffing Plan and new job descriptions that detail individual job classifications and the associated educational levels, certification requirements, and experience needed to fulfill the demands of that Project-related job classification. This effort will facilitate the hiring of personnel capable of properly supporting the operation, maintenance, and management of the Project facilities.

Based on the Engineer's survey of operator and maintenance pay scales within the southwest, AWWA salary survey data, and other information, the Engineer will develop pay scale recommendations for the existing and new job classifications. The pay ranges will be provided in a matrix of grade levels and years of experience, and will be normalized for the Santa Fe area.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- OC and the Owners identify anticipated plant-wide and system-wide staffing needs
- Owners will provide information on existing staffing positions, job descriptions, pay scale information, etc.

Deliverables

- Staffing Plan, draft and final, including hiring, training and transition plans, schedules and requirements for DB Contractor's training of O&M staff
- Summary of O&M Personnel Qualifications/Job Descriptions and pay scale recommendations

Task B7 — NHPA Compliance for Archaeological and Historical Sites

Objectives

The Engineer will obtain State Historic Preservation Officer (SHPO) concurrence that the Project is in compliance with Section 106 of the National Historic Preservation Act (Section 106). Section 106 requires that potential impacts to historic properties be considered prior to implementation of Federal undertakings, which include the granting of easements across Federal lands and the issuance of permits under the CWA. Historic properties include archaeological sites, historic buildings and landscapes, and traditional cultural places.

For the Project, archaeological sites have been inventoried and the initial consultation between the BLM, the USFS, and the SHPO has been initiated. The Engineer's objective will be to complete the work necessary to obtain SHPO concurrence for the archaeological and historic properties.

Approach

Section 106 compliance during Phase B of the project includes completion of archaeology mitigation, completion of an agreement document between the Federal Agencies, the SHPO, and the Owners, and the potential completion of test excavations on sites that are not recommended by the agencies for mitigation but present some risk for discoveries of buried deposits during construction. These tasks are presented herein as B7.1 and B7.2.

Compensation

The Engineer shall be compensated for this task on a labor and expenses basis, as described in Exhibit C.

Subtask B7.1 — Mitigation of Impacts to Known Historic Resources

Approach

Generally, the Section 106 compliance process requires the following for treating archaeology sites in a project area:

1. Identification of the Area of Potential Effect, which have been completed during the Environmental Impact Studies
2. Identification and evaluation for significance of resources that may be affected, which has been completed during the Environmental Impact Studies
3. Significance determinations consultation between Federal agencies and SHPO regarding Steps 1 and 2 above, which is currently in progress
4. Development of mitigation plan to address adverse effects to significant resources
5. Consultation between Federal agencies and SHPO regarding Step 4 above and issuance of excavation permit for federal lands (agency)
6. Implementation of mitigation plan - excavation of sites or other studies as needed
7. Completion of interim report (allows agency to release permit or easement)
8. Completion of final report

For the known resources, the Owners are responsible through the National Environmental Policy Act (NEPA) contractor for Steps 1, 2, and 3. The Engineer is responsible for Steps 4 through 8. Completion of Step 7 is necessary before proceeding with construction activities (data recovery) that will impact the resources.

The Engineer will prepare a data recovery plan for the archaeological investigations. The plan will provide a research design (including a local cultural history and specific research questions) and work plan including both general and site-specific methods. The anticipated level of effort will be spelled out clearly in the plan.

The Engineer will complete archaeology data recovery investigations, including all phases of this task -- from completion of the fieldwork to laboratory processing, analysis, and production of a final report. The Work will be in accordance with the approved Data Recovery Plan. Immediately following the cessation of fieldwork, Engineer will prepare an interim report that will be submitted for review. Approval of the interim report by the responsible agency (ies) will constitute cultural resources clearance for the Project.

The Engineer will complete a draft version of the data recovery report following the guidelines of the agency(ies). The Engineer will address any comments from the agency(ies) and produce a Final Data Recovery Report. Completion of the Draft and Final Data Recovery Reports is expected to be completed prior to DB Contractor construction activities.

Assumptions

- Archaeological data recovery will need to be carried out to avoid non-compliance with Section 106 regulations
- The Engineer will submit the Plan to the lead agency, but several agencies (including federal, state and local) may review and comment on the Plan
- The plan will be prepared by the Engineer over a period of up to three weeks. Review of the plan will require 30-60 days; potentially longer if a CPRC permit is required.
- This scope and estimate are based on the results of the surveys reported in January 2003 and February 2003 and the Draft EIS of July 2004
- SHPO concurs with the recommendations found in the draft archaeology reports dated January 2003 and February 2003
- Data recovery work is needed at the following sites with the following assumptions:
  - LA 128580 – includes field mapping of the railroad grade and completion of a historical context
  - LA 137068 – includes excavation of up to five features
  - LA 137075 – includes excavation of up to five features
- It is assumed in this scope that no pithouses will be encountered or excavated
- The archaeological investigations will constitute data recovery; i.e. an intermediate testing phase (involving a separate review process) will not be required

- Consultations have been initiated between the Federal agencies and Native American Tribes and Pueblos. It is not anticipated that ongoing consultation with Native Americans will be required under the Engineer scope.

Deliverables

- Both draft and final copies of the plan document
- Both interim and final versions of the data recovery report

Subtask B7.2 — Completion of an Agreement Document among the Federal Agencies, the SHPO, and the Owners

The Engineer will develop an Agreement Document that takes into account foreseen and unforeseen future effects to historic properties resulting from construction and operation of the Project. An Agreement Document is necessary because the Project design has not yet been finalized; therefore, potential effects to historic properties have not been fully assessed. This document was originally envisioned as a Programmatic Agreement but may be completed as a Memorandum of Agreement, as desired by the Federal agencies and SHPO. The Agreement Document will be completed by the Engineer concurrently with the data recovery plan described above as Step 4 under Task B7.1.

Deliverables

- Agreement Document as Programmatic Agreement or Memorandum of Agreement

Task B8—Preliminary Design of BDD Facilities

Objective

The Engineer will build upon work previously completed under Phase A, and other studies, to prepare with the Owners a Preliminary Design Report (PDR) for the BDD Facilities. Completing a preliminary design will allow the Owners to further define and require select unit treatment processes, equipment, construction materials, and other project requirements, thus increasing the Owners' control over the Project to realize the Owners' quality, cost, risks and schedule objectives. It will also allow early permitting work by the Engineer to aid in early completion of the Project. The Preliminary Design will include a report and drawings, as discussed further in this task, for the procurement of a DB Contractor and the DB contract preparation.

Approach

The Engineer will initiate this task by preparing a detailed outline of the proposed PDR (a general outline has been included as part of this task write-up). The outline will address all Project facilities and components that will be further specified, sized and designed under this task. The draft outline will be submitted to the Owners for comment and then finalized upon receipt of Owners comments. Four workshops will be conducted with the Owners on the treatment plant facilities and the diversion/conveyance facilities. Two workshops will be held with the Owners for the space programming of the Project buildings. Through these workshops and Engineer evaluation of various alternatives, decisions will be reached with the Owners as to the direction of the preliminary design. Based on these decisions, Engineer will prepare the draft PDR which will include a number of drawings as discussed herein. It is envisioned that two review sessions will

be held with the Owners, one near the end of the workshops to discuss the direction the preliminary design is headed and a second review to discuss the draft PDR. Subsequent to the latter review, and receipt of the Owners' comments, the draft PDR will be finalized by OC.

The level of design completion for the various project components will be as follows:

- Diversion structure, Diversion Support Facilities Building and Raw Water Pumping Station – moderate level (20%) of preliminary design
- Sediment Removal Facility and Booster Station 1A – low level (10%) of preliminary design
- Booster Station 2A - moderate level (20%) of preliminary design
- Raw water pipeline and Booster Station 1A – low level (10%) of preliminary design
- City/County Water Treatment Plant – high level (30%) of preliminary design
- Finished water transmission pipelines – moderate level (20%) of preliminary design

In addition, one of the critical elements in the preliminary design is the SCADA and Telemetry design that allows communication between the various elements of the Project. Also, the Owners' need for a high level of automation to reduce life cycle costs will require detailed requirements to be prepared by the OC. These parts of the preliminary design will be completed to a high level (30%).

The various levels of preliminary design have been agreed to with the Owners based on the need to set processes and equipment, the need for design information in obtaining permits, and the allowance for DB Contractor innovation. To better define the level of design, a drawing list is included at the end of this task. In general, the drawings will be completed by the Engineer to the extent necessary to convey the specific requirement to the DB proposers and DB Contractor.

The Engineer will also explore environmentally beneficial alternatives for disposal of the sand/silt and coagulated sludge from the WTP. As a part of the investigation included in this Task, a Plan for disposal options will be prepared by the Engineer to accompany the preliminary design. The Engineer will also determine permitting and/or approval requirements for each disposal alternative and outline whether each option is viable for the Project. The Engineer's plan will include a disruption of the tasks needed to implement the solids disposal/use alternatives.

Finished Water Pipeline Modeling

The Engineer will utilize the City's distribution system model to determine the Project's finished water pipeline diameters. Pipeline sizing will be based on providing peak day demands and fire flows from the City's 2020 demand projections and the County's 2040 demand projections for the different service areas. The evaluation will use the permitted alignment and connection points as determined in Phase A. The Engineer will adjust the City's model to balance demand and supply conditions only to the extent necessary to determine the finished pipeline diameters. The results of the modeling will be discussed with the Owners and a brief memorandum will be prepared by the Engineer. The results of the evaluation will be included in the Engineer's Preliminary Design Report.

Scour Study

OC is to prepare scour studies for the proposed two pipeline crossings of the Santa Fe River and two typical arroyo crossings. The scour study will help determine the depth of the pipeline and protection measures. This information will be reflected in the Engineer's preliminary design as well as assisting in obtaining required permits.

The pipe crossings of the Santa Fe River and area arroyos may be affected by generalized scour resulting from high flows that can occur in the river. The Engineer will develop general scour depth of one or more high flows to determine the risk of the pipe crossing to generalized scour utilizing one of two techniques:

> The Corps of Engineers model HEC-6: This model utilizes hydraulic output from HEC-2 or HEC-RAs to predict one-dimensional scour and deposition characteristics based on discharge, bed material and the geometric characteristics of the river channel.
>
> Generalized scour equations contained in the Federal Highway Authority (FHWA) manual, *Evaluating Scour at Bridges, FHWA-IP-90-017, Hydraulic Engineering Circular No. 18* (HEC-18).

The first method will be utilized if a hydraulic model already exists on the Santa Fe River and can be obtained by the OC. If no model is available, the Engineer will use the techniques contained in HEC-18 to determine the depth of scour. The equations upon which HEC-18 methodology is based on rely on channel geometry and roughness, discharge and bed material. This technique can also be used to check HEC-6 results. Field investigations of the cross sections will be performed by the Engineer for input into the models.

Surge Analysis

As part of the Preliminary Design, the Engineer will also perform a surge analysis of the raw water and finished water conveyance systems to provide recommendations and requirements within the DB contract to mitigate surges in the systems. The surge evaluation will analyze the three raw water pump stations (Raw Water Lift Station, Booster Stations 1A and 2A) and two finished water pump stations (Booster Stations 4A and 5A) to identify surge mitigation facilities needed for each of the pump stations. The study will not include the portion of Booster Station 2A that conveys water to Las Campanas. The worst-case scenario is anticipated to be pump station loss of power while operating at the maximum design flowrate. The surge evaluation includes developing a model of the system, performing the surge evaluation, preparing a technical memorandum summarizing the analysis, and will include a presentation at one of the preliminary design review workshops with the Owners.

Computation Fluid Dynamics Modeling

The Engineer will also apply computational fluid dynamics (CFD) software to analyze the hydraulic performance of the diversion structure. CFD is the science of predicting fluid flow by solving the mathematical equations that represent the three fundamental principals of fluid flow (conservation of mass, momentum, and energy). Application of CFD will allow the Engineer to

verify that, at low flow, adequate velocities are realized in areas where debris may potentially settle and to evaluate the overall hydraulic conditions at the diversion structure.

Nine flow scenarios will be modeled by the OC: low intake flow, average intake flow, and high intake flow at three river stages. A portion of the river, approximately 50 feet upstream and approximately 50 feet downstream of the diversion structure will be included in the model domain. A portion of the pump station suction pipeline(s), approximately 50 feet downstream of the diversion structure, will be included in the model domain to check "inlet" conditions. River cross sections and flows will be utilized from Las Campanas intake reports. The deliverables will include a CFD analysis results memorandum and graphics showing the velocity contours and velocity vectors in the vicinity of, and through the diversion structure.

Value Engineering Session

The Engineer will hold a Value Engineering (VE) workshop near the mid-point of the preliminary design. The VE workshop is an intensive work session during which the draft preliminary design is reviewed for optimization of processes, civil aspects, construction cost, energy consumption, and operation and maintenance costs. Owner participation will be invited by the OC. The workshop will be four days long and will consist of:

- Developing value analysis concepts based on function analysis of the total project and elements followed by cost/worth evaluation considering the initial construction and life cycle cost of the proposed functions.
- Brainstorming to identify all conceivable methods that would provide the necessary functions at a lower cost to the Owners or will result in improvement to the value of the end product. The team will reach consensus on which ideas are the best technically, have the greatest potential for acceptance, and will result in the greatest savings or value enhancement for the Owners.
- Development of best ideas into a workable alternative or enhancement to the existing concept. The development consists of a description of the recommended design and a description of the advantages and disadvantages of the idea compared to the design. Each VE recommendation is supported by calculations, sketches, and estimates of the savings in capital, O&M, and present worth of life cycle cost savings.
- Present the findings and recommendations of the VE Team to the Owners. The Engineer's VE Team will furnish a document that summarizes the findings, recommendations, and suggestions of the team along with the VE Team's estimate of the potential cost impact of implementing each recommendation.

The approach to VE is based on the USEPA approved VE methodology referred to as the VE Job Plan. The briefing document provided at the end of the workshop will provide both the Owners and the Engineer's project team with sufficient documentation to immediately begin the Pro/Con evaluation of the VE Team Recommendations. Upon completion (within 4 weeks of the VE Workshop) a Final Value Analysis Report will be submitted to the Owners including a summary of the value analysis items, applicable cost savings, selected items and their corresponding cost savings.

The Value Engineering Team will include a group of senior professionals in river diversion, solids handling, water treatment, general civil and cost estimating and will be led by an experienced VE Facilitator. All VE Team members will be independent of the Engineer's project team and will be experts in their specialized practice.

Treatment Process Selection Workshops

The treatment processes, including possible pre-treatment and near-river sedimentation facilities, will be evaluated and discussed by the Engineer with the Owners, to determine water treatment processes that will be utilized in the preliminary design and the minimum design and performance criteria. These criteria will be based on results of the pilot plant study, water quality regulations including anticipated future regulations, operational characteristics, ease of operation, maintenance requirements, flexibility to meet varying water quality, robustness of process to handle poorest of water quality, operation and maintenance costs, residual solids handling and disposal costs, chemical and power costs, staffing requirements, ease of maintenance, compatibility with existing staff skills, and local and regional equipment (service and parts) support.

The Engineer will evaluate a number of process treatment schemes according to performance criteria and other items. The Engineer will discuss these process treatment schemes in a workshop for screening to three viable process treatment trains. The Engineer will provide the workshop materials that will include a matrix of treatment processes and characteristics which will be used to screen the initial list to three viable sets of process/treatment alternatives.

The Engineer will then conduct an evaluation of the three viable sets of alternatives based on the above criteria. Comparative cost estimates will be made by the Engineer to provide the Owners with a comparison of capital and O&M costs. These evaluations will be presented at a second process selection workshop with the Owners. Based on Owners input, a treatment process train will be selected and will be utilized in the remaining portion of the preliminary design.

A third treatment process workshop will be held with Engineer providing and discussing recommended preliminary site layouts and treatment process layouts based on the selected treatment process train. The objective of this workshop will be to obtain input and concurrence from the Owners so the individual process elements and the site layout can be further developed.

It is envisioned that a fourth workshop will be held to discuss outstanding issues and action items as a result of the previous meetings on the treatment processes and layouts.

Prior to the second workshop, the Engineer will conduct facility visits with two of the Owners' staff and one staff member from Las Campanas to evaluate other agencies' operating facilities with processes or features that are being considered for the BDD Facilities. This will provide the Owners a first hand knowledge of the operations and maintenance of various facilities under consideration. It is anticipated that there will be three separate trips to view different facilities. The Engineer's project manager, project engineer or process engineer will accompany the Owners, and one of the Engineer's engineers local to the facilities will accompany the tour at each location.

Conveyance Facilities Workshops

Within the same series of four workshops, evaluations will be conducted by the Engineer to develop and prepare a preliminary design for the facilities outside of the treatment plant. These facilities will include: the near-river facilities (river diversion and raw water lift station), sediment removal facility, booster stations, raw water pipelines, and treated water pipelines. At each of these workshops, the Engineer will present various options for the facilities and will seek input from the Owners on specific needs, equipment, materials, and operation and maintenance requirements. The initial sets of options presented by the Engineer will be based on information generated under the Phase A. Through these workshops, the Engineer and the Owners will develop an understanding of the intended facilities for the Engineer to develop into the preliminary design.

The first workshop will be conducted with the Owners to develop the near-river facilities, including the diversion structure, low-head pump station, and sedimentation facilities. Booster Station 1A will be discussed at a subsequent workshop with other booster stations.

The second workshop will be held to discuss the booster stations and raw water conveyance system. Booster station arrangements, operation considerations, maintenance needs, equipment, materials and constraints will be discussed and the Owners will provide input for the development of the preliminary design.

The third workshop will be held to discuss the treated water pipeline and related facilities and their operation. Again, this workshop will be held to discuss the design elements of the pipeline and facilities so the preliminary design can be further developed.

A fourth workshop will be held so the Engineer can present the results and the Engineer's recommendations of the previous three workshops prior to moving ahead on the PDR. Engineer will provide conceptual drawings of the facilities reflecting the Owners' input and decision made during the previous workshops. This workshop will provide the Engineer with clear direction on how to proceed with the preliminary design.

Operation and Maintenance Cost Estimates

An operations and maintenance cost model will be developed by the Engineer to evaluate the various facility options. The cost model will include:

- Operations and maintenance labor and materials costs
- Vehicle maintenance and operating costs
- Security costs
- Chemical costs
- Energy costs
- Residual solids handling and disposal costs
- Laboratory and Compliance Report costs
- Repair and replacement costs

The Engineer's O&M cost model will be used by the Engineer to develop relative cost differences between the three process alternatives, as well as the near-river and conveyance facilities. A final O&M cost estimate will be prepared by the Engineer based on the accepted results of the value engineering report, the technical reviews, and the Owners' review comments.

Construction Cost Estimate

The Engineer will provide relative construction cost estimating for the three viable process alternatives for the selection process. A construction cost estimate will be prepared by Engineer based on the draft PDR and the final selected processes and facilities. The cost estimate will be prepared with costing of each project component and systems to provide a level of detail that will allow value engineering. Based on the accepted results of the value engineering report, the technical reviews, and the Owners' review comments, a final construction cost estimate will be prepared.

Life Cycle Cost Model

The Engineer will develop a life cycle cost model for the Project that will allow the Engineer to develop recommendations based upon the Owners' cost objective for minimizing the Project's life cycle cost. The model will be based on the life cycle cost computational methods developed as part of the Project Development Requirements in Phase A. The Engineer will utilize the life cycle cost model, where appropriate, to support basic decisions needed to prepare the preliminary design of certain facilities. Also, the Engineer will utilize the model to calculate the estimated life cycle cost of the Project with the Engineer's estimates of operation and maintenance costs and of design and construction costs for the facilities, based on the preliminary design.

Preliminary Design Report

The PDR will be prepared based on the Project Development Requirements prepared under Phase A and the results of the workshops and other tasks discussed above. The results of the PDR will be used by the Engineer to supplement the PDR prepared by the Engineer under Phase A. A preliminary list of the sections contained in the proposed Preliminary Design Report includes:

- Executive Summary
- Overview of Project
- Project Design Requirements & Criteria (in addition to and to supplement the Phase A Technical Requirements)
- Individual sections for each project component outlining the process description of the each facility component and the preliminary process design criteria. The individual sections will include the diversion structure and raw water low lift station, sediment removal facility, booster station 1A, booster station 2A, raw water pipelines, the City/County WTP facilities, treated water booster stations, and treated water pipelines.
- Civil and Site Work Preliminary Design
- Corrosion Control for piping and equipment
- Structural Preliminary Design
- Architectural Preliminary Design

- Security Features for the plant and other facilities
- Electrical Preliminary Design
- In-Plant SCADA and Instrumentation & Control Preliminary Design
- Outlying Facilities SCADA and Telemetry Preliminary Design
- HVAC/Plumbing Preliminary Design
- Fire Protection Preliminary Design
- Code Analysis for Fire Protection and HVAC
- Geotechnical Report as an appendix

The Engineer's electrical preliminary design will include a load study, major equipment criteria, redundancy and versatility criteria, physical space requirements, main service needs, standby power requirements, and electrical circuit/ductbank approach and routing. In addition the Report shall provide an overview and design criteria for lighting systems, communications systems, security systems, fire alarm and motor controls. The task will also include initial contacts and documentation of discussion with electrical utility. The report will summarize the electrical design approach and indicate how the approach will be applied at the multiple facilities to provide commonality of the design scheme.

The in-plant SCADA and instrumentation and control preliminary design section will include a discussion of instrument selection criteria, P&ID tag numbering approach, control hierarchy, control network media requirements, in-plant SCADA design criteria, and interface requirements for linking in-plant SCADA to remote telemetry and other in-plant equipment having networking capabilities. The Report will summarize the instrumentation and control approach and indicate how the approach will be applied at the multiple facilities to provide commonality of the design scheme.

The above sections of the PDR will be used to provide additional detail to the technical requirements developed under Phase A. A draft PDR will be submitted to the Owners for review prior to being finalized as discussed below.

Technical Reviews with Owners

In addition to Engineer's in-house reviews of work under this and other tasks, two formal technical reviews will be conducted for the review of the preliminary design. The first technical review session will be held with the Owners near the end of the treatment and conveyance workshops to discuss the direction the preliminary design is headed. The Engineer will produce a memorandum including minutes of workshops and other documents detailing decisions and the proposed direction of the preliminary design. The meeting will be attended by Engineer's project manager, project engineer, senior process engineer and three independent senior process engineers. The Owners will provide representatives including any outside consultants if desired by the Owners. The Engineer's project manager and project engineer will present material and facilitate the meeting. Based on the outcome of the review session, a set of comments will be generated by each technical review committee member as well as workshop minutes. The Engineer will generate a formal response to these comments for the Owners' review. A meeting

with the Owners will be held to resolve any outstanding issues raised during the review to enable the Engineer to proceed with the preliminary design.

A second technical review session will be held to discuss the Draft Preliminary Design. The review session will be attended by the same members of the previous technical review. Similar to the first review session, the Engineer will send out information prior to the meeting, present materials at the meeting and facilitate the discussion of the draft preliminary design. The review committee members will prepare a memorandum outline recommendations and review comments for finalizing the Preliminary Design. The Engineer will then develop a response to the review comments and hold a meeting with the Owners to gain concurrence so the preliminary design can be finalized.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- The codes and standards and Project Development Requirements developed in Phase A will be utilized as a basis for the preliminary design task, as will the pilot testing study
- Four workshops will be held with the Owners to garner input into the treatment processes and the conveyance facilities
- Two architectural space programming workshops will be conducted by the Engineer with the Owners
- Two technical review sessions will be held with the Owners to formally review the results of the workshops and then to discuss the draft preliminary design. Subsequent to each of these review sessions, Engineer will hold a meeting to discuss responses to review comments and gain concurrence on the direction of the preliminary design.
- Preliminary design drawings will be prepared by the OC, as shown at the end of this task. The drawings will be completed to the extent necessary to convey an understanding and the requirements for the Owners' review and subsequent DB procurement and contract requirements.
- The Owners will provide comments through the workshops and through the Owners' Project Manager within 2 weeks of draft Preliminary Design Report workshops
- The PDR will not include CSI-type formatted specifications for materials and equipment. However, it will include criteria, requirements and constraints as part of the Project Development Requirements which will be included in the PDR. These requirements and constraints will be used for the procurement of a DB Contractor and the DB contract requirements for the DB's design and construction.
- Buckman Road Improvements will not be included in the Engineer's Preliminary Design. Instead the "Buckman Road Study" prepared by Tierra Lopez Garcia Group for the City of Santa Fe will be made a part of the DB documents with requirements by the OC. The Owners will provide a copy-ready original of the report or electronic files for the Engineer's use.

- The Engineer will obtain and pay for airline tickets, hotel reservations and meals for the three facility tours, which will include one Engineer team member, one Engineer local engineer, and two Owners' staff member. Each trip is assumed to be two days and one night.
- Three solids disposal/use alternatives will be investigated by the OC
- The Engineer will attend four site visits/meetings during the disposal/use alternatives investigation
- Regular communication with the various agencies (i.e., Santa Fe Solid Waste Management Agency, NMED Solid Waste Bureau, etc.) will be necessary and will be accomplished via email and telephone correspondence to investigate alternative solids disposal/use alternatives
- Floodplain model or another HEC-RAS/HEC-2 model will be provided by the City or County if available
- The Engineer will develop pipeline crossing details for arroyos based on the study of two of the area arroyos

Deliverables

- Draft and Final PDR outline
- Draft PDR, including drawings
- A Plan for disposal of the sand/silt from the river and the coagulated sludge from the WTP will be prepared by the OC. The Engineer will include the permitting and/or approval requirements for each disposal alternative and outline whether each option is viable for the Project in the Plan
- Surge Evaluation Technical Memorandum
- Distribution Pipeline Modeling Memorandum
- CFD Modeling Technical Memorandum
- Scour Study Technical Memorandum
- VE workshop materials and reports
- Workshop and meeting minutes
- Technical review session materials, minutes, and responses to review comments
- Final PDR, including drawings

The following drawing list is preliminary. The type of treatment processes and facility features will determine the actual names of sheets, though it is expected that the number of drawings 314 will remain approximately the same as detailed below.

Rio Grande Diversion and Raw Water Lift Station

No.	Drawing Title	Scale
G-0	Cover	none
G-1	Vicinity Map and Drawing List	none
G-2	General Notes and Symbols	none
G-3	Abbreviations	none
G-4	Process Flow Diagram	none
G-5	Hydraulic Profile	none
GC-1	Civil Notes	none
C-1	Diversion/Raw Water Lift Station Site Plan	1" = 10'
C-2	Diversion Grading Plan	1" = 10'
C-3	Raw Water Pipeline - Plan I	1" = 50'
C-4	Raw Water Pipeline - Plan II	1" = 50'
C-5	Access Road - Plan	1" = 50'
C-6	Sand Return Pipeline - Plan I	1" = 50'
C-7	Sand Return Pipeline - Plan II	1" = 50'
GM-1	Mechanical Notes and Symbols	none
M-1	Diversion Facility - Mechanical Plan	1/4" = 1'-0"
M-2	Raw Water Lift Station - Mechanical Plan	1/4" = 1'-0"
M-3	Diversion Support Facilities Building - Mechanical Plan	1/4" = 1'-0"
GE-1	Electrical Notes and Symbols	none
E-1	Diversion Facility - Single Line Diagram	none
E-2	Raw Water Lift Station - Single Line Diagram	none
E-3	Diversion Support Facilities Building - Single Line Diagram	none
E-4	Electrical Site Plan	1”=10’
GI-1	Instrumentation Notes and Symbols	none
GI-2	Instrumentation Symbols and Nomenclature	none
I-1	Diversion P&ID	none
I-2	Raw Water Lift Station P&ID	none
I-3	Diversion Support Facilities Building P&ID	none
I-4	Control System Architecture	none
	Estimated Number of Drawings	29

Sediment Removal Facility and Raw Water Booster Station 1A

No.	Drawing Title	Scale
G-0	Cover	none
G-1	Vicinity Map and Drawing List	none
G-2	General Notes and Symbols	none
G-3	Abbreviations	none
G-4	Process Flow Diagram	none
G-5	Hydraulic Profile	none

Sediment Removal Facility and Raw Water Booster Station 1A

No.	Drawing Title	Scale
GC-1	Civil Notes	none
C-1	Sedimentation/Booster Pumping Station 1A Site Plan	1" = 20'
C-2	Sedimentation/Booster Pumping Station 1A Grading Plan	1" = 20'
C-3	Sediment Storage Lagoons and Facilities	1" = 20’
GH-1	HVAC Notes and Symbols	none
H-1	Schematics - HVAC	none
GM-1	Mechanical Notes and Symbols	none
M-1	Sediment Removal Facility - Mechanical Plan	1/4" = 1'-0"
M-2	Booster Station 1A - Mechanical Plan	1/4" = 1'-0"
GE-1	Electrical Notes and Symbols	none
E-1	Sediment Removal Facility - Single Line Diagram	none
E-2	Booster Station 1A - Single Line Diagram	none
E-3	Electrical Site Plan	1”=20’
GI-1	Instrumentation Notes and Symbols	none
GI-2	Instrumentation Symbols and Nomenclature	none
I-1	Sediment Removal Facility - P&ID	none
I-2	Booster Station 1A - P&ID	none
I-3	Control System Architecture	none
	Estimated Number of Drawings	24

Raw Water Pipeline and Booster Station 2A

No.	Drawing Title	Scale
G-0	Cover	none
G-1	Vicinity Map and Drawing List	none
G-2	General Notes and Symbols	none
G-3	Abbreviations	none
G-4	Pipeline Flow Diagram	none
G-5	Hydraulic Profile	none
GC-1	Civil Notes	none
GC-2	Typical Existing Natural Gas Line Crossing	1" = 10'
GC-3	Typical Arroyo Crossing	1" = 10
GC-4	Typical Pipeline Details I	Varies
GC-5	Typical Pipeline Details II	Varies
GC-6	Typical Pipeline Details III	Varies
C-1	Key Plan	1" = 1250'
C-2	Booster Pumping Station 2A Site Plan	1" = 10'
C-3	Raw Water Pipeline - Plan (Sta 0+00 to 14+00)	1" = 50'
C-4	Raw Water Pipeline - Plan (Sta 14+00 to 28+00)	1" = 50'
C-5	Raw Water Pipeline - Plan (Sta 28+00 to 42+00)	1" = 50'
C-6	Raw Water Pipeline - Plan (Sta 42+00 to 56+00)	1" = 50'
C-7	Raw Water Pipeline - Plan (Sta 56+00 to 70+00)	1" = 50'
C-8	Raw Water Pipeline - Plan (Sta 70+00 to 84+00)	1" = 50'
C-9	Raw Water Pipeline - Plan (Sta 84+00 to 98+00)	1" = 50'
C-10	Raw Water Pipeline - Plan (Sta 98+00 to 112+00)	1" = 50'

Raw Water Pipeline and Booster Station 2A

No.	Drawing Title	Scale
C-11	Raw Water Pipeline - Plan (Sta 112+00 to 126+00)	1" = 50'
C-12	Raw Water Pipeline - Plan (Sta 126+00 to 140+00)	1" = 50'
C-13	Raw Water Pipeline - Plan (Sta 140+00 to 154+00)	1" = 50'
C-14	Raw Water Pipeline - Plan (Sta 154+00 to 168+00)	1" = 50'
C-15	Raw Water Pipeline - Plan (Sta 168+00 to 182+00)	1" = 50'
C-16	Raw Water Pipeline - Plan (Sta 182+00 to 196+00)	1" = 50'
C-17	Raw Water Pipeline - Plan (Sta 196+00 to 210+00)	1" = 50'
C-18	Raw Water Pipeline - Plan (Sta 210+00 to 224+00)	1" = 50'
C-19	Raw Water Pipeline - Plan (Sta 224+00 to 238+00)	1" = 50'
C-20	Raw Water Pipeline - Plan (Sta 238+00 to 252+00)	1" = 50'
C-21	Raw Water Pipeline - Plan (Sta 252+00 to 266+00)	1" = 50'
C-22	Raw Water Pipeline - Plan (Sta 266+00 to 280+00)	1" = 50'
C-23	Raw Water Pipeline - Plan (Sta 280+00 to 294+00)	1" = 50'
C-24	Raw Water Pipeline - Plan (Sta 294+00 to 308+00)	1" = 50'
C-25	Raw Water Pipeline - Plan (Sta 308+00 to 322+00)	1" = 50'
C-26	Raw Water Pipeline - Plan (Sta 322+00 to 336+00)	1" = 50'
C-27	Raw Water Pipeline - Plan (Sta 336+00 to 350+00)	1" = 50'
C-28	Raw Water Pipeline - Plan (Sta 350+00 to 364+00)	1" = 50'
C-29	Raw Water Pipeline - Plan (Sta 364+00 to378+00)	1" = 50'
C-30	Raw Water Pipeline - Plan (Sta 378+00 to 392+00)	1" = 50'
C-31	Raw Water Pipeline - Plan (Sta 392+00 to 406+00)	1" = 50'
C-32	Raw Water Pipeline - Plan (Sta 406+00 to 420+00)	1" = 50'
C-33	Raw Water Pipeline - Plan (Sta 420+00 to 434+00)	1" = 50'
C-34	Raw Water Pipeline - Plan (Sta 434+00 to 448+00)	1" = 50'
C-35	Raw Water Pipeline - Plan (Sta 448+00 to 462+00)	1" = 50'
C-36	Raw Water Pipeline - Plan (Sta 462+00 to 476+00)	1" = 50'
C-37	Raw Water Pipeline - Plan (Sta 476+00 to 490+00)	1" = 50'
C-38	Raw Water Pipeline - Plan (Sta 490+00 to 504+00)	1" = 50'
C-39	Raw Water Pipeline - Plan (Sta 504+00 to 518+00)	1" = 50'
C-40	Raw Water Pipeline - Plan (Sta 518+00 to 532+00)	1" = 50'
C-41	Raw Water Pipeline - Plan (Sta 532+00 to 546+00)	1" = 50'
C-42	Raw Water Pipeline - Plan (Sta 546+00 to 560+00)	1" = 50'
C-43	Raw Water Pipeline - Plan (Sta 560+00 to 574+00)	1" = 50'
C-44	Raw Water Pipeline - Plan (Sta 574+00 to 580+80)	1" = 50'
GH-1	HVAC Notes and Symbols	none
H-1	Schematics - HVAC	none
GM-1	Mechanical Notes and Symbols	none
M-1	Booster Station 2A - Mechanical Plan	1/4" = 1'-0"
GE-1	Electrical Notes and Symbols	none
E-1	Booster Station 2A - Single Line Diagram	none
GI-1	Instrumentation Notes and Symbols	none
GI-2	Instrumentation Symbols and Nomenclature	none
I-1	Booster Station 2A Piping and Instrumentation Diagram	none
I-2	Control System Architecture	none
	Estimated Number of Drawings	67

City/County Water Treatment Plant

No.	Drawing Title	Scale
G-0	Cover	none
G-1	Drawing List	none
G-2	Location Map, Vicinity Map, and Site Key Plan	1" = 60'
G-3	General Notes and Symbols	none
G-4	Abbreviations	none
G-5	Design Criteria	none
G-6	Process Flow Diagram	none
G-7	Hydraulic Profile	none
GC-1	Civil Notes	none
C-1	Facility Plan	1" = 60'
C-2	Key Plan	1" = 60'
C-3	Property Boundaries and Benchmarks	1" = 60'
C-4	Site Clearing and Demolition Plan	1" = 60'
C-5	Grading and Paving Plan - Overall Site	1" = 60'
C-6	Grading and Paving Plan - Northwest Quadrant	1" = 20'
C-7	Grading and Paving Plan - Northeast Quadrant	1" = 20'
C-8	Grading and Paving Plan - Southwest Quadrant	1" = 20'
C-9	Grading and Paving Plan - Southeast Quadrant	1" = 20'
C-10	Site Access Road - Grading Plan	1" = 20'
C-11	Yard Piping Plan - Overall Site	1" = 60'
C-12	Yard Piping Plan - Northwest Quadrant	1" = 20'
C-13	Yard Piping Plan - Northeast Quadrant	1" = 20'
C-14	Yard Piping Plan - Southwest Quadrant	1" = 20'
C-15	Yard Piping Plan - Southeast Quadrant	1" = 20'
L-1	Landscaping and Site Mitigation - Notes	none
L-2	Landscaping - Overall Site Plan	1" = 60'
L-3	Landscaping Plan - Northwest Quadrant	1" = 20'
L-4	Landscaping Plan - Northeast Quadrant	1" = 20'
L-5	Landscaping Plan - Southwest Quadrant	1" = 20'
L-6	Landscaping Plan - Southeast Quadrant	1" = 20'
GA-1	Architectural Notes and Symbols	none
GA-2	Typical Pump Station - Plan and Elevations	1/4" = 1'-0"
4A-1	Primary Disinfection Basin - Plan and Elevations	1/4" = 1'-0"
5A-1	Filters - Plan and Elevations	3/16" = 1'-0"
10A-1	Operations Building - Lower Floor Plan	1/4" = 1'-0"
10A-2	Operations Building - Upper Floor Plan	1/4" = 1'-0"
10A-3	Operations Building - Roof Plan	1/4" = 1'-0"
10A-4	Operations Building - North and South Elevations	1/8" = 1'-0"
10A-5	Operations Building - East and West Elevations	1/8" = 1'-0"
10A-6	Chemical Building - Floor and Roof Plans	1/8" = 1'-0"
10A-7	Chemical Building - North and South Elevations	1/8" = 1'-0"
10A-8	Chemical Building - East and West Elevations	1/8" = 1'-0"
	HVAC Notes and Symbols	3/16" = 1'-0"
GH-1	Filter Gallery - Equipment Plan	3/16" = 1'-0"
5H-1	Disinfection Building - Equipment Plan	1/8" = 1'-0"
7H-1	High Service Pumping Station - Equipment Plan and Schematic	3/16" = 1'-0"
8H-1	Solids Thickening & Dewatering - Equipment Plans and Schematic	none

City/County Water Treatment Plant

No.	Drawing Title	Scale
9H-1	Operations Building - Schematic	1/4" = 1'-0"
10H-1	Operations Building - Equipment Plans I	1/4" = 1'-0"
10H-2	Operations Building - Equipment Plans II	none
10H-3	Chemical Building - Schematic	1/8" = 1'-0"
10H-4	Chemical Building - Equipment Plans	
10H-5		
GM-1	Mechanical Notes and Symbols	none
1M-1	Raw Water Equalization Facility - Plan	1/8" = 1'-0"
2M-1	Plant Raw Water Metering and Flash Mix Facilities - Plan	1/4" = 1'-0"
3M-1	Clarification Facilities - Plan	1/8" = 1'-0"
3M-2	Clarification Facilities - Sections	1/8" = 1'-0"
4M-1	Primary Disinfection Basins - Plan	1/4" = 1'-0"
4M-2	Primary Disinfection Basins - Section	1/4" = 1'-0"
4M-3	Primary Disinfection Support Facilities	1/4" = 1'-0"
5M-1	Filtration Facilities Plan I	3/16" = 1'-0"
5M-2	Filtration Facilities Plan II	3/16" = 1'-0"
5M-3	Filtration Facilities Sections	3/16" = 1'-0"
5M-4	Backwash Pumps - Plan	3/16" = 1'-0"
5M-5	Air Scour Blowers - Plan	3/16" = 1'-0"
5M-6	Washwater Recovery/Filter-to-Waste Facilities - Plan	3/16" = 1'-0"
6M-1	Taste and Odor/Organics Removal System – Plan	3/16" = 1'-0"
6M-2	Taste and Odor/Organics Removal System – Sections	3/16" = 1'-0"
7M-1	Secondary Disinfection System - Plan	3/16" = 1'-0"
7M-2	Secondary Disinfection System - Section	3/16" = 1'-0"
8M-1	Finished Water Reservoir and High Service Pumping Station - Overall Plan	1/8" = 1'-0"
8M-2	Finished Water Reservoir and High Service Pumping Station - Partial Plan	1/4" = 1'-0"
9M-1	Solids Thickening and Dewatering Facilities - Plan	3/16" = 1'-0"
10M-1	Chemical Storage and Feed Facilities - Plan	3/16" = 1'-0"
10M-2	Chemical Storage and Feed Facilities - Sections	3/16" = 1'-0"
GE-1	Electrical Notes and Symbols	none
E-1	Plant - Single Line Diagram	none
E-2	Standby/Emergency Generator - Single Line Diagram	none
E-3	Electrical Site Plan - Overall	1" = 60'
E-4	Electrical Site Plan - Northwest Quadrant	1" = 20'
E-5	Electrical Site Plan - Northeast Quadrant	1" = 20'
E-6	Electrical Site Plan - Southwest Quadrant	1" = 20'
E-7	Electrical Site Plan - Southeast Quadrant	1" = 20'
GI-1	Instrumentation Notes and Symbols	none
GI-2	Instrumentation Symbols and Nomenclature	none
GI-3	Plant Control System Architecture	none
I-1	Raw Water Equalization - P&ID	none
I-2	Plant Raw Water Metering and Coagulation Facilities - P&ID	none
I-3	Clarification Basin - P&ID I	none
I-4	Clarification Basin - P&ID II	none
I-5	Clarification Basin - P&ID III	none
I-6	Clarification Basin - P&ID IV	none
I-7	Primary Disinfectant Storage and Feed System - P&ID	none

City/County Water Treatment Plant

No.	Drawing Title	Scale
I-8	Primary Disinfection - P&ID	none
I-9	Filtration - P&ID I	none
I-10	Filtration - P&ID II	none
I-11	Filtration - P&ID III	none
I-12	Filtration - P&ID IV	none
I-13	Backwash Pumps - P&ID	none
I-14	Air Scour Blowers - P&ID	none
I-15	Filter-to-Waste System - P&ID	none
I-16	Washwater Recovery System - P&ID	none
I-17	Taste and Odor/Organics Removal - P&ID - I	none
I-18	Taste and Odor/Organics Removal - P&ID - II	none
I-19	Secondary Disinfection - P&ID	none
I-20	Finished Water Reservoir and High Service Pumping Station - P&ID	none
I-21	Solids Thickening and Dewatering Systems - P&ID	none
I-22	Typical Bulk Liquid Chemical Storage and Feed System - P&ID	none
I-23	Typical Tote Bin Liquid Chemical Storage and Feed System - P&ID	none
I-24	Typical Dry Chemical Storage and Feed System - P&ID	none
	Estimated Number of Drawings	110

Finished Water Transmission Pipelines

No.	Drawing Title	Scale
G-0	Cover	none
G-1	Vicinity Map and Drawing List	none
G-2	Symbols	none
G-3	Abbreviations	none
G-4	Pipeline Flow Diagram	none
G-5	Hydraulic Profile	none
GC-1	Civil Notes	none
GC-2	Booster Station 3A Connection - Plan, Section, Details	1/4" = 1'-0"
GC-3	City Turnout - Typical Plan, Section, Details	1/4" = 1'-0"
GC-4	County Turnout - Typical Plan, Section, Details	1/4" = 1'-0"
GC-5	Typical Pipeline Details I	Varies
GC-6	Typical Pipeline Details II	Varies
GC-7	Typical Pipeline Details III	Varies
C-1	Key Plan	1" = 1250'
Schedule A: C/CWTP to Buckman Booster Stations 3 and 3A		
C-2	Finished Water Pipeline - Plan (Sta 0+00 to 14+00)	1" = 50'
C-3	Finished Water Pipeline - Plan (Sta 14+00 to 28+00)	1" = 50'
C-4	Finished Water Pipeline - Plan (Sta 28+00 to 42+00)	1" = 50'
C-5	Finished Water Pipeline - Plan (Sta 42+00 to 56+00)	1" = 50'
C-6	Finished Water Pipeline - Plan (Sta 56+00 to 70+00)	1" = 50'
C-7	Finished Water Pipeline - Plan (Sta 70+00 to 84+00)	1" = 50'
C-8	Finished Water Pipeline - Plan (Sta 84+00 to 98+00)	1" = 50'
C-9	Finished Water Pipeline - Plan (Sta 98+00 to 112+00)	1" = 50'
C-10	Finished Water Pipeline - Plan (Sta 112+00 to 126+00)	1" = 50'
C-11	Finished Water Pipeline - Plan (Sta 126+00 to 140+00)	1" = 50'

Finished Water Transmission Pipelines

No.	Drawing Title	Scale
C-12	Finished Water Pipeline - Plan (Sta 140+00 to 154+00)	1" = 50'
C-13	Finished Water Pipeline - Plan (Sta 154+00 to 168+00)	1" = 50'
C-14	Finished Water Pipeline - Plan (Sta 168+00 to 182+00)	1" = 50'
Schedule B: C/CWTP to Junction of East and West Branches (Schedules C and D)		
C-15	Finished Water Pipeline - Plan (Sta 0+00 to 14+00)	1" = 50'
C-16	Finished Water Pipeline - Plan (Sta 14+00 to 28+00)	1" = 50'
C-17	Finished Water Pipeline - Plan (Sta 28+00 to 42+00)	1" = 50'
C-18	Finished Water Pipeline - Plan (Sta 42+00 to 56+00)	1" = 50'
C-19	Finished Water Pipeline - Plan (Sta 56+00 to 70+00)	1" = 50'
C-20	Finished Water Pipeline - Plan (Sta 70+00 to 84+00)	1" = 50'
C-21	Finished Water Pipeline - Plan (Sta 84+00 to 98+00)	1" = 50'
C-22	Finished Water Pipeline - Plan (Sta 98+00 to 112+00)	1" = 50'
C-23	Finished Water Pipeline - Plan (Sta 112+00 to 126+00)	1" = 50'
C-24	Finished Water Pipeline - Plan (Sta 126+00 to 140+00)	1" = 50'
C-25	Finished Water Pipeline - Plan (Sta 140+00 to 154+00)	1" = 50'
C-26	Finished Water Pipeline - Plan (Sta 154+00 to 168+00)	1" = 50'
C-27	Finished Water Pipeline - Plan (Sta 168+00 to 182+00)	1" = 50'
C-28	Finished Water Pipeline - Plan (Sta 182+00 to 196+00)	1" = 50'
C-29	Route 599 Crossing - Plan and Profile	1" = 50'
Schedule C: West Branch		
C-30	Finished Water Pipeline - Plan (Sta 0+00 to 14+00)	1" = 50'
C-31	Finished Water Pipeline - Plan (Sta 14+00 to 28+00)	1" = 50'
C-32	Finished Water Pipeline - Plan (Sta 28+00 to 42+00)	1" = 50'
C-33	Finished Water Pipeline - Plan (Sta 42+00 to 56+00)	1" = 50'
C-34	Finished Water Pipeline - Plan (Sta 56+00 to 70+00)	1" = 50'
C-35	Finished Water Pipeline - Plan (Sta 70+00 to 84+00)	1" = 50'
C-36	Finished Water Pipeline - Plan (Sta 84+00 to 98+00)	1" = 50'
C-37	Finished Water Pipeline - Plan (Sta 98+00 to 112+00)	1" = 50'
C-38	Finished Water Pipeline - Plan (Sta 112+00 to 126+00)	1" = 50'
C-39	Finished Water Pipeline - Plan (Sta 126+00 to 140+00)	1" = 50'
C-40	Finished Water Pipeline - Plan (Sta 140+00 to 154+00)	1" = 50'
C-41	Finished Water Pipeline - Plan (Sta 154+00 to 168+00)	1" = 50'
C-42	Finished Water Pipeline - Plan (Sta 168+00 to 182+00)	1" = 50'
C-43	Finished Water Pipeline - Plan (Sta 182+00 to 196+00)	1" = 50'
C-44	Finished Water Pipeline - Plan (Sta 196+00 to 210+00)	1" = 50'
C-45	Finished Water Pipeline - Plan (Sta 210+00 to 224+00)	1" = 50'
C-46	Finished Water Pipeline - Plan (Sta 224+00 to 238+00)	1" = 50'
C-47	Finished Water Pipeline - Plan (Sta 238+00 to 252+00)	1" = 50'
C-48	Finished Water Pipeline - Plan (Sta 252+00 to 266+00)	1" = 50'
C-49	Santa Fe River Crossing - Plan and Profile	1" = 50'
C-50	Airport Road Crossing - Plan and Profile	1" = 50'
C-51	Interstate 25 Crossing - Plan and Profile	1" = 50'
Schedule D: East Branch		
C-52	Finished Water Pipeline - Plan (Sta 0+00 to 14+00)	1" = 50'
C-53	Finished Water Pipeline - Plan (Sta 14+00 to 28+00)	1" = 50'
C-54	Finished Water Pipeline - Plan (Sta 28+00 to 42+00)	1" = 50'
C-55	Finished Water Pipeline - Plan (Sta 42+00 to 56+00)	1" = 50'

Finished Water Transmission Pipelines

No.	Drawing Title	Scale
C-56	Finished Water Pipeline - Plan (Sta 56+00 to 70+00)	1" = 50'
C-57	Finished Water Pipeline - Plan (Sta 70+00 to 84+00)	1" = 50'
C-58	Finished Water Pipeline - Plan (Sta 84+00 to 98+00)	1" = 50'
C-59	Finished Water Pipeline - Plan (Sta 98+00 to 112+00)	1" = 50'
C-60	Finished Water Pipeline - Plan (Sta 112+00 to 126+00)	1" = 50'
C-61	Santa Fe River Crossing - Plan and Profile	1" = 50'
	Estimated Number of Drawings	74

SCADA and Telemetry System

No.	Drawing Title	Scale
T-0	Cover	none
T-1	Vicinity Map and Drawing List	none
T-2	General Notes and Symbols	none
T-3	SCADA System Block Diagram Sheet 1	none
T-4	SCADA System Block Diagram Sheet 2	none
T-5	Communications System Block Diagram	none
T-5	Communications System Baseband Diagram	none
T-6	Existing System Modifications	none
T-7	Tesuque Peak Modifications	none
T-8	Rack Elevations	none
T-9	Miscellaneous Details	none
	Estimated Number of Drawings	11

Phase C: Procurement Process for DB

Task C1—Conduct Step One of the DB Procurement Process

Objective

In full accordance with Owners' purchasing procedures, the Engineer will perform all of the activities necessary to complete Step One of the procurement process to result in a pre-qualified short list of potential DB Contractors that will be invited to submit detailed technical and cost proposals in response to the Owners' Step Two RFP.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Subtask C1.1—Announcement and Official Recipients

A draft of the proposed Project announcement or public notification along with suggested trade periodicals for publication will be prepared by Engineer and submitted to the Owners for review and approval. Upon receipt of Owners' approval and/or requested changes, the final Project announcement will be prepared by the OC. The Owners will be responsible for placement of the announcement in the selected trade periodicals and the local newspaper and other publications as may be required by law or City/County policy or rule. The announcement will be limited to

essential information about the Project and the procurement process (and should be less than one-half page). If requested by the Owners and based on our familiarity with the municipal water DB industry, Engineer will prepare a list of potential DB proposers.

An official list or registration of the Step One RFP recipients will be compiled and updated as necessary.

A pre-proposal meeting will be conducted approximately 30 days after publication of the Project announcement. Relevant information about the Project, the Owners' objectives and criteria, and the procurement process will be presented at the meeting. Questions and comments presented by attendees will be responded to in writing no later than ten business days after receipt.

Subtask C1.2—Step One RFP Addenda

All necessary addenda to the Step One RFP will be prepared, including responses to questions and comments submitted by potential respondents. Each addendum will be provided to the Owners in draft form within five business days, and upon Owners' review and approval, the final addendum will be prepared and issued to the registered recipients of the Step One RFP. Addenda will be issued not later than ten business days after a registered recipient's submission of written questions or comments, unless a longer time frame is required for approval by the Owners or Engineer recommends that a longer period should be allowed due to the complexity of questions or to aggregate questions from several sources.

Subtask C1.3—Support Owners' Evaluation of Step One Submittals

Each Step One submittal will be thoroughly reviewed by the Engineer for responsiveness (to categorize submittals as unacceptable and acceptable). The comparative evaluation and ranking to develop the short list will be done by the Evaluation Committee with assistance of the OC. An assessment of the responsiveness of each Step One submittal will be documented by the Engineer within 15 business days of receipt of the submittals unless a longer period of time is necessary for clarifications of submittals.

Support will be provided by the Engineer to the Owners' Evaluation Committee in the deliberative process of developing the short list of potential DB Contractors, including attendance at meetings of the Evaluation Committee and any interviews/meeting with respondents, preparation of memoranda addressing particular questions or areas of concern raised by the Evaluation Committee, contacts with references, and preparation of minutes of Evaluation Committee meetings. The evaluation process will be conducted in accordance with the final Step One evaluation methodology developed in Phase A.

OC's financial advisory subconsultant will provide a review of the step one proposers' financial information, including an independent evaluation of available credit reports for the proposed short listed DB firms.

A Step One evaluation report will be prepared by the Engineer that summarizes the results of the Evaluation Committee's deliberations, including the list of firms (short list) that will be invited to submit Step Two Proposals and the conclusions of the responsiveness and comparative evaluations.

Assumptions

- Up to eight Step One submittals will be evaluated by the OC
- No more than two meetings with the Step One Evaluation Committee and one meeting with the City's Purchasing Department
- The City's purchasing department will distribute the Step One RFPs and addenda
- The Owners will organize and manage the Evaluation Committee

Deliverables

- Draft and final Project Announcements
- Copies of Step One RFP for the City's distribution
- Copies of Addenda for the City's distribution
- Memorandum on the responsiveness review
- Responses to requests for clarification and additional information
- Memoranda addressing specific questions or areas of concern raised by the Evaluation Committee
- Step One Evaluation Report

Task C2—Conduct Step Two of the DB Procurement Process

Objective

In full accordance with Owners' purchasing procedures and the strategy developed in Phase A, Engineer will perform all of the activities necessary to complete Step Two of the procurement process to result in the selection of a DB Contractor to enter into contract negotiations with the Owners.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Subtask C2.1—Short List Notification and Pre-Proposal Meeting

A draft letter for notifying short listed firms will be prepared and submitted by the Engineer to the Owners for review and approval. Upon receipt of the Owners' approval and/or requested changes, the final notification letter will be prepared.

A pre-proposal meeting will be conducted by the Engineer at a time approximately 20 to 30 days after issuance of the Step Two RFP. Summary information about the Project, the Owners' objectives and criteria, and key aspects of the Step Two procurement process will be presented at the meeting. Questions and comments presented by attendees will be responded to in writing by the Engineer no later than 30 business days prior to the proposal due date.

Subtask C2.2—Step Two RFP Addenda

It is anticipated that the Engineer will receive written questions from the DB proposers and the Engineer will provide copies of the questions to the Owners. All necessary addenda to the Step Two RFP will be prepared by the OC, including responses to questions and comments submitted by potential respondents. Each addendum will be provided by the Engineer to the Owners in draft form. Upon Owners' review and approval, the final addendum will be prepared by the Engineer and issued to the short listed firms by the Owners. Addenda will be issued not later than 15 business days after a short listed firm's submission of written questions or comments, unless a longer time frame is required for approval by the Owners or to aggregate questions from more than one proposer.

Subtask C2.3—Support Owners' Evaluation of Step Two Submittals

Approach

Each Step Two submittal will be thoroughly reviewed by the OC, first for overall responsiveness and then the Engineer's separate teams will review the Technical Proposals and the Business Proposals, respectively. An assessment of the responsiveness of each Step Two submittal will be completed by the Engineer within 15 business days of receipt of the submittals, unless clarifications are necessary. Such assessment will be documented in a memorandum and will also identify specific areas or points in each submittal where clarification or additional information may be required from the respondent. Upon review and approval by the Owners, requests for clarification and additional information will be sent to each respondent (as necessary).

Support will be provided by the Engineer to the Owners' Evaluation Committee in the deliberative process of evaluating the Technical and Business Proposals and selecting the preferred respondent(s) for contract negotiations, including attendance at meetings of the Evaluation Committee and any interviews/meeting with respondents, preparation of memoranda addressing particular questions or areas of concern raised by the Evaluation Committee, contacts with references, and preparation of minutes of Evaluation Committee meetings. Such process will be conducted in accordance with the final Step Two evaluation methodology.

The Engineer's financial advisory subconsultant will reassess the financial condition of the short-listed firms and the selected DB prior to award.

The Engineer will prepare a Step Two evaluation report that summarizes the results of the Evaluation Committee's deliberations.

Assumptions

- Copies of the Step 2 RFP documents will be provided under Task B4
- Distribution of the Step 2 RFP and addenda will be performed by the Owners
- Up to four Step Two submittals will be evaluated by the OC
- Seven meetings with the Step Two Evaluation Committee and respondents
- Owners will organize and manage the Evaluation Committee

Deliverables

- Draft letter of short list notification
- Memorandum on the responsiveness review
- Requests to respondents for clarification and additional information
- Memoranda addressing specific questions or areas of concern raised by the Evaluation Committee
- Draft and final Step Two RFP addenda
- Step Two RFP Evaluation Report

Task C3—Negotiate the DB Contract

Objective

The Engineer will lead the DB contract negotiations process with the selected DB proposer and will provide recommendations to the Owners during such negotiations.

Approach

This task will be completed by the Engineer upon the signing of the DB contract by both the Owners and the DB. All activities under this Task will be performed in close coordination with, and subject to the approval of, Owners' legal counsel. Engineer anticipates the extent of negotiation will be minimized since a detailed draft of the Owners' required DB Contract will be included in the Step Two Request for Proposals to gain acceptance from the potential DB proposers during Task C2. The Owners' legal counsel will be responsible for review of the DB Contract to determine the Owners' ability to enforce its terms and for conformance with applicable law, including the laws of the State of New Mexico and the laws applied through various funding sources utilized by the Owners for the Project, and for the review of the DB Contract to comment on the clarity of its terms and conditions. The following subtasks will be performed by the OC.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Subtask C3.1—Identify DB Contract Issues

A memorandum will be prepared by the Engineer to identify the outstanding issues between the Owners and the selected DB Contractor with regard to the Draft DB Contract included as an appendix to or separate volume of the Step Two RFP. Such issues will be categorized as technical, financial, administrative and legal. A memorandum consisting of a brief discussion of each issue will be provided along with alternative approaches to issues resolution (and recommendations where appropriate). This memorandum will be reviewed with Owners and positions that are in the best interest of the Owners will be developed by the Engineer for each issue.

Subtask C3.2—Conduct Negotiating Sessions

Meetings and telephone conference communications will be conducted by the Engineer with the Owners and the selected DB to resolve all outstanding contractual issues and concerns between the parties. An agenda and related materials (such as revised draft contract language) will be

prepared and distributed prior to negotiation meetings and communications. At the conclusion of each negotiating session, a summary memorandum will be prepared by the Engineer to document the discussions, and identify the issues that have been resolved and outstanding issues between the parties.

Subtask C3.3—Prepare Final DB Contract

The DB Contract, including all technical and other schedules, will be prepared by the Engineer in the final form for signature by the parties. As required to support Subtask C3.2, updated DB contract drafts (including selected portions and complete contract documents) will be prepared by the OC. Where appropriate, the selected DB Contractor will be requested to prepare updated drafts of technical schedules for review and approval by the Owners. Support will be provided by the Engineer to the Owners to facilitate the authorization by its governing bodies of the final DB contract.

Assumptions

- Up to five 4-hour contract negotiation sessions
- Multi-jurisdictional issues will have been resolved by the City, County, and Las Campanas prior to developing contract requirements
- Negotiations are limited to the selected DB Contractor (i.e., does not include simultaneous negotiations with more than one selected DB, nor a subsequent process of negotiations with a second selected DB Contractor)
- Up to 240 hours of the Engineer's procurement manager, 104 hours of Engineer's support staff time and 106 hours for the Engineer's project manager or project engineer will be used on this task
- Negotiations requiring a level of effort beyond those discussed in these tasks may be provided through an additional services task

Deliverables

- Memoranda on outstanding contractual issues between the Owners and the selected DB Contractor
- Agenda and related materials to support contract negotiating sessions
- Materials needed to support Owners' authorization of DB Contract
- Final DB Contract documents as executed

Phase D: Implementation of DB Contract

Task D1—Review of DB Design Submittals

Objectives

The Engineer will monitor the DB Contractor's design progress and review the DB Contractor's design submittals for compliance with DB contractual documents to verify that the design of facilities meets the needs of the Owners, as developed in the Phases A, B, and C.

Approach

During the DB Contractor's design phase, the Engineer will monitor the DB Contractor's progress, review its monthly progress reports and attend monthly progress meetings. Through this interaction with the DB Contractor, the Engineer will be able to monitor and assess the DB Contractor's progress. The Engineer will promptly address issues and concerns and assist the Owners in setting priorities to facilitate Project progress.

Also during the DB Contractor's design phase, the Engineer will review and comment on all DB monthly progress pay requests and schedule updates. The Engineer will review the pay requests, schedule updates, and provide the Owners with written recommendations within ten calendar days of Engineer's receipt of these materials.

The DB Contractor will be required to provide the Owners and the Engineer with design submittals on every aspect of the Project. In addition, it is anticipated that there will be a number of areas where the DB Contractor will need the Owners' input into the design, e.g., finishes, color selection, architectural concepts, certain building materials, and landscaping. Bi-weekly design review meetings will be held during this period to provide feedback to the DB Contractor on design submittals and to provide input into the Owner-selected items.

The DB Contractor's design submittals will also be assessed by the Engineer with respect to the operations and maintenance requirements set forth in the DB Contract. This may include a review by the Engineer of the operability of systems, maintenance requirements of the equipment and systems, and staffing needs as required by the DB Contractor's submitted equipment and systems.

The Engineer will review the DB Contractor's design submittals for the various facilities to see that they meet requirements of the DB contract. The Engineer will review and comment on the submittals within 14 calendar days to maintain Project progress.

The Engineer will also review the DB Contractor's final design submittals within 14 calendar days. This final review will be conducted to determine if all of the previous comments have been adequately addressed according to contractual requirements.

In addition, the DB Contractor will likely be required to make submittals to the Owners and the Engineer prior to submitting information to regulatory/ permitting agencies. The Engineer will provide a review and comment on these submittals within ten calendar days.

After issuance of building permits by various agencies, it is anticipated that there will be design clarifications and changes (DCC) issued by the DB Contractor. These DCCs will be reviewed by Engineer for compliance with the contract documents.

The Engineer and DB Contractor will obtain the NMDOT "Permit to Install Utility Facilities within Public Right-of-Way," as deemed a shared Engineer and DB Contractor responsibility through the Permit Plan. Five applications for NMDOT approval will be submitted: (1) ROW along NM 599; (2) the jacking and boring (J/B) location at Airport Road and NM 599; (3) the J/B location at NM 599 and Interstate 25; (4) the J/B location at NM 599 north of South Meadows Drive; and (5) the J/B location at NM599 and the Santa Fe River. Under Phase D, the DB Contractor will provide follow up documentation with the remaining pipeline elements (Plan and Profile Drawings,

Traffic Control Plan, Utility Crossings, etc.) and the four J/B applications. The DB Contractor will prepare the follow up documentation for obtaining the NMDOT permits (Plan and Profile Drawings, Traffic Control Plan, Utility Crossings, etc.) as outlined in the Permit Plan.

As outlined in the Engineer's Permit Plan, the DB Contractor will be responsible for completing and complying with the following permits, easements, and other regulatory requirements:

- City of Santa Fe Development Permit
- USEPA Notice of Intent and Notice of Termination to Comply with NPDES Permit; USEPA Storm Water Pollution Prevention Plan; and NMED Certification of NPDES
- Santa Fe County Land Use Department Development Permit Application
- NMED Drinking Water Bureau Approval of Construction or Modification of Existing Public Water Supply System Application
- BLM and USFS Visual Management Objectives Compliance
- USFS Native Plant Revegetation Mitigation Program Compliance
- Invasive Plant Species Plan
- Soil Protection Mitigation Techniques Compliance
- USFS Stipulations for Special Use Permits for Project Construction Compliance
- BLM Right-of-Way Stipulation for Project Construction Compliance
- NMED Construction Programs Bureau Compliance
- City of Santa Fe and Santa Fe County Noise Constraints and Stipulations Compliance

As mentioned herein, the Engineer will share the responsibility with the DB Contractor for completing the following permits, easements, and other regulatory requirements:

- NM Department of Transportation Permit to Install Utility Facilities within Public Right-of-Way
- Utility Coordination Plan
- Santa Fe County Public Works Department Application for Right-of-Way
- BLM Plan of Development and US Forest Service Operations Report

The Engineer will monitor the DB Contractor's progress in obtaining each of these items to make sure each is completed in a timely fashion to mitigate risk to the Project, whether it is delays to the design, mobilization, or construction.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- During the DB Contractor's design phase, monthly progress meetings will be held with the DB Contractor and the Owners under Task E1. Subsequent progress meetings will be conducted under Task D3.
- The DB Contractor will submit "design packages" of the following BDD facilities for the Engineer's review and permit application purposes:
  - Diversion Structure and Raw Water Lift Station
  - Sediment Removal Facility and Booster Station 1A
  - Raw water pipeline
  - Booster Station 2A
  - City/County Water Treatment Plant (and Booster Stations 4A and 5A)
  - Finished water transmission pipelines
- It is assumed that these submittals will include, but are not limited to the following:
  - DB Management Plan
  - Quality Control and Quality Assurance Plans
  - Design Development Report
  - Additional Water Quality Testing, if applicable
  - Process and Instrumentation Diagrams
  - Programming and wiring identification systems
  - Equipment and Instrumentation Lists
  - Hydraulic and Surge Analysis
  - Near River Facilities (revised 30%, 50%, 90%, and Final Drawings and Specifications)
  - Raw Water Transmission Facilities (revised 30%, 50%, 90%, and Final Drawings and Specifications)
  - Water Treatment Plant Facilities (revised 30%, Design Package 1, Design Package 1 and 2, Design Package 1, 2 and 3, and Final Drawings and Specifications)
  - Finished Water Distribution Facilities (revised 30%, 50%, 90%, and Final Drawings and Specifications)
  - Calculations, including but not limited to: hydraulic, geotechnical, structural, architectural, electrical, energy, mechanical, and process
  - Interconnection Plan for the DB Contractor's connection to finished water, telemetry, SCADA, power and other utilities and systems
  - SCADA, RTU, and Control system including Human Machine Interface (HMI) information, screens and other items

Deliverables

- Design review meeting minutes
- OC's written comments on design submittals
- OC's written comments on permit application packages

Task D2—Review of DB Contractor's Construction Submittals

Objectives

OC review of DB Contractor's construction submittals with respect to the DB Contract requirements for the equipment, systems, materials and facilities and with respect to the DB Contractor's design submittals.

Approach

Prior to the start of the DB Contractor's construction, the Engineer will begin to receive and review construction submittals for both equipment/materials and construction procedures. The Engineer will review these submittals with respect to the DB Contractor's contractual requirements including O&M requirements. Submittals will also be reviewed for compliance with environmental and cultural protection requirements. The Engineer will endeavor to provide review comments within 14 calendar days; however, certain submittals may include multiple systems and will require additional review time.

It will be the DB Contractor's responsibility to coordinate submittals with other submittals and all aspects of the DB Contractor's design. The Engineer will be reviewing the submittals solely for compliance with the DB contract requirements.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- During Phase B, the Engineer will determine the extent of review and the specific DB construction submittals to be reviewed by OC. It is assumed that these submittals will include, but not be limited to the following:
  - Health and Safety Plan
  - Emergency Response Plan
  - Traffic Control Plan
  - Hazardous Materials Management Plan
  - Spill Prevention and Control Plan
  - Fire Prevention Plan
  - Acceptance, Testing and Startup Plan
  - Equipment Delivery Plan and Schedule
  - Storm Water Pollution Prevention Plan

- USFS/BLM Stipulations Monitoring Plan
- Updated construction schedules
- Equipment and analyzer lists
- Structural submittals including Division 3 items, rebar drawings and materials
- Civil submittals
- Landscaping, revegetation, and site restoration submittals
- HVAC, plumbing and fire protection submittals
- Process mechanical submittals
- Architectural submittals
- Electrical equipment, wiring, and devices submittals
- Instrumentation and control submittals including SCADA and telemetry
- Invasive Plants Management Plan
- Soil Protection Plan
- Visual Resources Management Compliance Report
- Progress pay requests
- "Record Drawing" progress submittals

Deliverables

- OC's written construction submittal review comments
- Updated monthly submittal logs by OC
- Finishes, samples, etc. requiring Owners' input
- Minutes by Engineer from special meetings to address construction submittals

Task D3—Construction Monitoring and Special Inspections

Objectives

The Engineer will work with the Owners and the DB Contractor to implement the BDD facilities so they meet the Owners' interests, goals and objectives as developed in the contractual requirements and schedule constraints. The Engineer will monitor the DB Contractor's construction activities for conformance with the Project contractual requirements, as wells as environmental and other agency commitments and stipulations such as easement agreements, Clean Water Act Permits, ESA Section 7 documentation. The Engineer will also coordinate the project concepts and progress with the interested agencies not covered in other project tasks. The Engineer will coordinate environmental issues with the Owners, DB Contractor and various agencies.

Approach

The Engineer will provide an onsite Resident Project Representative (RPR) and inspectors to perform tasks, which include but are not limited to the following:

- OC observation and monitoring of the DB Contractor's construction activities throughout the construction of the BDD facilities
- Monitor the construction of the facilities with respect to the DB Contractor's construction submittals and contractual requirements
- Review field documents
- Review DB Contractor's pay requests (according to project requirements and NM Retainage Act), as-builts, testing results and other activities
- Maintain daily activity inspection reports including digital photographs of the construction

The Engineer will attend regular weekly progress meetings at the site with the DB Contractor and Owners. Progress meeting minutes will be prepared by the DB Contractor and distributed to the Engineer and Owners for each meeting. Engineer will review and comment on such meeting minutes.

The Engineer will represent the Owners at a witnessed factory acceptance test to demonstrate that the entire SCADA and telemetry system are properly integrated and will work as a system. Upon completion of factory acceptance testing, the system will be released for shipment to the jobsite. During construction, Engineer and its subconsultant will provide construction monitoring of system installation, monitoring during start-up, and site acceptance testing.

In addition to the RPR, the Engineer will also provide an Archaeological Monitor to observe: construction activities and compliance with commitments in the NEPA documents (as required in the DB contract); construction in archaeological sensitive areas (areas of "known" sites previously deemed none-significant) and compliance with avoidance measures; and to identify, protect and report newly discovered archaeological features.

Also, the Engineer's Environmental Monitor will observe the DB Contractor's implementation of environmental stipulations and requirements once a week during construction. The Environmental Monitor will report any construction activities through the Engineer's RPR that do not conform to the environmental requirements and constraints as required in the DB contract.

The DB Contractor cannot disturb or destroy any migratory bird nest that has eggs or hatchlings (active nests). The Engineer's subconsultant, SWCA, will survey for migratory bird nests prior to the DB Contractor's removal of vegetation that could potentially have active bird nests. The protocol for these surveys will require a survey within 5 days of the vegetation removal. The Engineer will coordinate with the DB Contractor to schedule bird surveys within five days of construction during the nesting season – April 15 to August 15. If active nests are found, construction must avoid the nests and a buffer area until the hatchlings have fledged and abandoned the nest as will be stated in the DB contract.

The Engineer will participate in ongoing coordination with agencies and other participants during Phases B, C and D of the Project, including but not limited to:

- DB Contractor
- Bureau of Land Management

- NMED
- U.S. Forest Service
- U.S. Army Corps of Engineers
- Bureau of Reclamation
- U.S. Fish and Wildlife Service
- State Historic Preservation Officer
- New Mexico Department of Transportation

Issues that will be addressed by the Engineer include coordination of Clean Water Act permit conditions, Threatened and Endangered Species, Historic Resources, NHPA and Section 106 compliance, and environmental clearance for DOT and other rights of ways and easements. Permitting and compliance will require Engineer coordination between the Owners, the DB contractor, and the agencies regarding application of the regulatory requirements, construction means and methods, quantified impacts, and planning for unforeseen impacts.

In addition to the key agencies identified above, the Engineer will coordinate with other interested agencies to provide project updates and information. Based upon Engineer's experience with this important Santa Fe Project, we anticipate presentations will be made to the following agencies: Northern Pueblos (through the Eight Northern Indian Pueblos Council), the Aamodt Group, and the MRC Committee.

The Engineer will provide environmental compliance training for the DB Contractor that will include a meeting with the DB Contractor's design team, a meeting with construction management and a meeting with the DB Contractor's superintendents and engineers. The Engineer will video tape one of the meetings for the DB Contractor's use in training its staff and subcontractors.

Compensation

The Engineer shall be compensated for this task on a labor and expenses basis, as described in Exhibit C.

Assumptions

- Construction, including checkout and startup, will take 29 months
- OC's RPR will be onsite during construction activities, which is assumed to be 29 months
- One Engineer inspector will assist the Engineer's RPR for 27 months
- One Engineer environmental compliance inspection per week of construction
- Specialty inspectors will be utilized on the Project for a total of 24 months at 40 hours per week, consisting of monitoring time for instrumentation and control, electrical, structural, architectural, mechanical or other as needed to address specific needs
- A field office trailer and other facilities will be obtained through the DB Contract at the DB Contractor's expense for the Engineer's use which will be located separate from the DB Contractor's office space

- A single SCADA/telemetry factory acceptance test will be needed and no follow-up re-testing will be required
- Documentation of successful completion of each step of factory acceptance and site acceptance testing will be prepared and submitted by the DB Contractor to the OC
- OC's archaeological monitoring includes reporting new discoveries but no formal recording or mitigation of impacts (excavation or data recovery)
- Construction period includes only one nesting season, since areas will be cleared by the second season
- Bird nesting survey will be conducted for a maximum of 36 eight-hour days
- The Engineer will provide the Owners with resumes of proposed field personnel for the Owners' approval prior to starting this task.
- Information is available in the Administrative Record and the EIS
- The list of agencies provided is preliminary and other public and private entities may identify themselves later
- OC's Environmental Coordinator will be available for a total of up to 650 hours under this task
- OC will prepare handouts and conduct a total of five additional presentations to other agencies, as required
- Owners and Agency meetings as allowed for in the available hours
- The Engineer environmental training will include three training meetings and preparation of a video tape of a training session

Deliverables

The Engineer will provide the following deliverables under this task:

- Review of progress payment and recommendation for payment on a monthly basis
- Comments on DB Contractor minutes from weekly progress meetings
- Communications as necessary to keep the Owners informed on construction issues
- Copies of Project photos, inspection reports, test reports, and other RPR records at Project completion
- Daily logs for all monitoring personnel (i.e., archaeological monitoring, SWPPP monitoring, etc.) at Project completion
- DB Contractor's monthly schedule update with Engineer transmittal and written comments
- Archaeological discovery reports
- Migratory Bird discovery reports
- Reports of non-conforming construction activities
- Letter reports and technical memoranda, as needed, to coordinate environmental issues

- Project update presentations and handouts, as required, for coordinating with other agencies
- Graphics and handouts regarding environmental issues will be provided for agency meetings

Task D4—Operations and Maintenance Assistance

Objectives

The start-up and commissioning of the BDD Project is accomplished successfully through careful planning and appropriate use of support personnel. The Engineer understands that a smooth transition from construction to operations and maintenance of the facilities by the Owners can only occur through proper training and development of facility procedures. The Engineer's primary objectives of this task are to coordinate and support the activities of the Owners' staff by providing monitoring and supplemental resources during the transition from the DB Contractor's performance testing to full operations and maintenance responsibility by the Owners, establishing standard operating procedures, implementing efficient and effective work practices, and training the Owners' staff in proper process control and operating principles to supplement the initial training provided by the DB Contractor.

The Engineer will review and monitor the DB Contractor's startup and testing of the diversion, sediment removal facility, water treatment facility, pumping stations, and support facilities and serve as the O&M liaison with the Owners during the DB Contractor's performance testing period(s). The Engineer's objectives include monitoring and assessing the operating results occurring during the DB Contractor's performance testing and examining the subsequent results.

Approach

Startup and Testing

While monitored by Engineer, the DB Contractor will be responsible for executing the startup and performance testing of the BDD Facilities. The DB Contractor will provide a detailed startup and performance testing plan that describes the individual steps involved in the inspection of the equipment and components and the planned approach for initially staffing, startup and testing of the BDD Facilities. It shall also address the disposal of waters prior to acceptance into the Owners' distribution system. The Engineer will provide written review comments regarding the inspection procedures to be conducted prior to startup and testing, as well as comments related to the adequacy of startup procedures.

Upon Engineer approval of the Startup and Performance Testing Plan, the DB Contractor will provide a process-specific and equipment-specific checklist of startup and testing activities to Engineer for review. The Engineer will monitor the DB Contractor's start and testing of the BDD Facilities to see that they meet the requirements of the DB contract. The Engineer will work with the Owners and the DB Contractor to establish test data logs for use during performance testing to document compliance with the terms of the DB Contract.

It is recognized that once the treatment facility attains full operating status for performance testing by the DB Contractor, it will be necessary to conduct water quality analyses. Engineer will work with the DB Contractor to identify the necessary samples and tests associated with confirming proper operation of the treatment facility and the Engineer will assess the testing results. The Engineer will not allow the facilities to release any drinking water into the Owners' distribution

systems until all testing results adequately demonstrate the facility's finished water consistently meets applicable drinking water standards.

DB Contractor to Owners Transition

Prior to starting the transition from DB Contractor tested facilities to Owners operated facilities, the Engineer will monitor the DB Contractor's testing and will review and comment on the O&M information system prepared by the DB Contractor. The Engineer will coordinate with the Owners and the DB Contractor to make sure the Owners' operating and maintenance staff receive the required training and are ready for take over of the facilities.

Owners' Operation and Maintenance of Facilities

During the performance testing period, the Engineer will provide supervision and supplemental training of the Owners' staff as they become familiar with the plant O&M procedures as executed by the DB Contractor and document demonstrated performance.

In addition, the Engineer will develop an initial draft set of Standard Operating Procedures (SOPs) for use by the Owners' staff in routine operation of the facilities. These will be revised during the demonstration test period based on actual experience, and then implemented by the staff for finalization during the first six months of full facility operations.

During the first six months of Owners operations following the demonstration test period, the Engineer will provide an Operations Supervisor to assist the Owners' facilities managers in directing the treatment process operations and plant staff as they develop the skills and knowledge to sustain consistent and reliable performance. The Engineer's Operations Supervisor will have no direct line authority but will work through the Owners' managers. An O&M Specialist will also be provided during that period to verify the maintenance program requirements have been properly captured and are executed by the Owners' personnel, finalize the plant SOPs based on information learned and adjustments implemented during the initial operations period, and support the Owners' staff with supplemental training focusing on routine practices such as chemical pump calibrations, equipment rotation schedules, specialty purchase specifications and procurement, and other site specific requirements.

Once the Owners' staff has accepted full ownership of the operations and maintenance of the BDD Facilities, the Engineer will assist the Owners in obtaining support services from the DB Contractor and manufacturers for a year's period. During this period, the Engineer will provide an optimization study of the BDD Facilities to provide recommendations on how the plant and other facilities can be optimized to meet water quality while reduce operating costs.

Compensation

The Engineer shall be compensated for this task on a labor and expenses basis, as described in Exhibit C.

Assumptions

- The DB Contractor's major equipment suppliers will be onsite and available during the DB Contractor's startup and testing activities

- Prior to the execution of startup, and within a time frame agreed to by the Owners and OC, the DB Contractor will submit a Startup and QAQC Plan that details startup activities to the Owners and Engineer for review and comment
- Upon mutually agreeing on the content of the Startup Plan, and within a time frame agreed to by the Owners and OC, the DB will provide a Checklist of Startup Activities that both reflects and summarizes the contents of the Startup Plan. This document will then be submitted within the above designated time frame to the Owners and Engineer for review and comment. The Startup Plan will serve as the onsite reference during the daily startup activities.
- Independent testing of equipment and systems will be through a firm(s) hired by the DB Contractor with the Engineer's approval
- With startup underway, Engineer will monitor the startup activities and the DB will provide daily progress reports to Engineer and the Owner, such as vendor training and startup tasks and associated tasks occurring concurrent with startup.
- The Owner will have implemented a staffing plan and recruitment program consistent with the recommendations of Task B6
- An Operations Supervisor and O&M Specialist for up to twelve months, beginning six months prior to DB Contractor's performance testing

Deliverables

- Review and comment on DB Contractor's proposed Startup and Performance Testing Plan
- Checklist of Startup Activities
- Checklist of Performance Testing Activities
- Draft and final SOPs for routine and non-routine operations for effective and efficient treatment performance.
- A training program specific to the needs of the staff and facility to provide confidence and competence in the Owners' O&M personnel.
- Completed startup and performance testing checklists
- Daily, weekly and monthly O&M Assessment Reports
- Water Quality Testing Reports from DB Contractor's Performance Testing
- Staff training schedule and materials as developed by the DB Contractor and Manufacturers
- Final assessment of DB Contractor's startup and performance testing of facilities
- Optimization Study

Phase E: Program Support Activities

Phase E tasks represent activities that support the Owners and the BDD Project, and are performed in parallel with the various tasks that comprise Phases B, C, and D.

Task E1 – Project Communications

Objectives

This task provides for communications under Phases B, C and D. In addition to the meetings and workshops provided as part of the other tasks, each month over the durations of Phases B, C, and D, the Engineer will make timely delivery of a Monthly Progress Report and hold a monthly progress meeting with the Owners. To the extent possible, Engineer will combine the monthly progress meetings with other meetings or workshops to minimize the Owners' workload.

Additionally, Engineer will provide periodic updates to the Santa Fe City Council and PUC, Board of County Commissioners and Las Campanas Water Corporation Board and make presentations to the Buckman Direct Diversion Board.

Approach

Written Monthly Progress Reports will include the following items:

- Brief narrative of progress and deliverables made by Engineer since the previous Progress Report
- Anticipated progress over the next period including an updated list of deliverables, meetings and their dates, and other anticipated Engineer and DB contractor activities
- Updated list of action items and outstanding items and decisions
- A list of concerns and/or potential issues
- An updated CPM Project Schedule during Phases B and C (from Task E2)

Monthly Progress Reports will be electronically distributed approximately 1 week before the Monthly Progress Meeting to provide the Owners with adequate time to review the information. Each Monthly Progress Report will be concisely written (e.g., bullets) and will include a brief executive summary to facilitate the Owners' presentation of the materials to each entity's governing body, at the Owners' discretion. Engineer will meet with the Owners in a monthly Progress Meeting to discuss the items from the Report and to discuss new developments, plans for resolving outstanding action items, and upcoming deliverables and workshops. In addition to the reports and meetings, Engineer will provide updated summary-style PowerPoint slides on the progress of the Project for the Owners' use in communicating Project progress to governing bodies.

OC will provide brief project updates to the BDD Board bimonthly during Phases B, C and D.

OC will continue to manage and populate the Engineer's web-based Project eRoom. The selected DB Contractor will also be an active member of the eRoom and will be provided access to relevant folders and content.

Also as part of this task, monthly invoices will be prepared and transmitted to the Owners in an agreed upon format. The invoice will be submitted after the Monthly Progress Meeting. The invoice content and amounts will be based on the monthly report and the percents of completion agreed to by the Owners and Engineer at the monthly progress meeting (for lump sum tasks) and actual charges (for labor and expenses tasks).

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- Monthly Project Progress Reports will be prepared and distributed via e-mail and through the Project eRoom until commencement of the Operational Period. During the Operational Period portion of Phase D, Engineer's monthly operations monitoring report (provided under Task D4) will serve as the Monthly Progress Report.
- Monthly Project Progress Meetings will be held in Santa Fe during the Project. During Phase D, each Monthly Project Progress Meeting will coincide with one of the weekly construction meetings to reduce travel and meeting time between the Owners and OC.
- Presentation materials for the Owners to use in communicating with governing bodies will be prepared by OC. Up to five summary-style slides will be updated/ prepared on a monthly basis. Contents may include an updated project schedule, photos, and other readily-available Project information.
- Six project briefing presentations will be made by the Engineer to the City Council or Public Utility Commission
- Six project briefing presentations will be made to the Board of the County Commissioners
- Four project briefing presentations will be made to the Las Campanas Water Corporation Board
- Six project briefing presentations will be made by the Engineer to the BDD Board
- Owners and other eRoom users have access to the internet and will provide their own computers and compatible web browser software to allow their use of eRoom software
- Additional progress meetings beyond the monthly meetings described herein may be required or requested by Owners, but cannot be predicted at the commencement of this Agreement. Therefore, a need for significant additional such progress meetings will be addressed under Additional Services.

Deliverables

- Monthly Project Progress Reports
- Monthly Project Progress Meeting agenda and materials
- Monthly Project Progress Meeting summaries
- Monthly PowerPoint updates for Owners' use in presentation to governing bodies
- Monthly Project Invoices

- Materials required for presentations to BDD Board, City Council or PUC
- Web-based Project eRoom, including download and access instructions

Task E2—Update Project Schedule

Objective

Continue to develop, evaluate and update the critical path project schedule developed under Task A5, that will be a useful tool in evaluating impacts of decisions and project changes, and provide updated schedule to assess Project progress.

Approach

OC will continue to work with the Owners, stakeholders, and agencies to identify any additional or modified schedule drivers and constraints that may affect the schedule provided under Task A5.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Assumptions

- Schedule updates (through Phases B and C) will be submitted electronically and incorporated into the progress reports
- A total of eight monthly updates of the schedule will be submitted to the Owners under Phases B and C.
- The DB contractor will be responsible for submitting schedule and updates after DB award; however, Engineer will provide an assessment of the DB's schedule as part of Engineer's Phase D scope of work

Deliverables

- Monthly CPM schedule updates through Phases B and C (The DB contractor will be responsible for submitting schedule and updates after DB award and continuing through Phase D)

Task E3—Community Outreach

Objective

The Engineer will provide support to community outreach activities described in the Buckman Direct Diversion Project Community Outreach Plan (Task A9),including outreach to three levels of public audience: affected public, special interest groups and oversight agencies, and general public. The Engineer will prepare project specific information, presentations, handouts, and other materials as requested by the Owners for information meetings, fact sheets, special interest group meetings, and media outlets. Community Outreach will be performed throughout Phases B, C and D of the Project.

Approach

The Engineer will provide support to the Owners for public relations and community outreach. Based on the Community Outreach Program Plan (Task A9) the Engineer anticipates preparing materials and presentations for public information meetings in support of the Project, including:

- Providing project information that will assist in promoting public confidence and acceptance of the project using graphically illustrated fact sheets and PowerPoint presentations developed by the Engineer for public meetings
- Providing materials and presentations demonstrating that environmental, cultural resources, and other community concerns addressed in the EIS are an integral part of the planning and execution of the Project
- Providing a technical representative to give presentations at meetings with the affected public, special interest groups, neighborhood associations, and oversight agencies as requested by the Owners

As part of the Community Outreach task, the Engineer will meet with residents and businesses affected by Project Construction. Through these face-to-face meetings, the Engineer will provide Project information, listen to concerns, and work with the RPR and the DB Contractor to address those concerns. In addition, the Engineer will provide a local phone number for the public to call in case of concerns or problems during construction of the Project. The Engineer will take phone calls in an effort to address the public concerns.

Compensation

The Engineer shall be compensated for this task on a labor and expenses basis, as described in Exhibit C.

Assumptions

- The Owners will identify and provide public meeting facilities and pay any advertising costs at the Owners' separate expense
- Deliverables will be provided to the Owners in electronic format using standard software applications via the Project eRoom unless otherwise noted
- Support for 5 general public information meetings for affected public; meetings with approximately 30 special interest groups and 10 neighborhood groups
- Information for one event-based color fact sheet that is anticipated over a four year period for a total of four separate fact sheets
- Up to 80 hours of a project senior engineer's time will be used for interaction with residents and businesses affected by Project Construction and related Owners/OC/DB coordination

Deliverables

- Public Information Meetings: meeting materials, PowerPoint presentations
- Technical drawings, visual aids, maps, animations as requested by Owners
- Minutes from meetings and notes from phone calls

Task E4 – Capital Budget and Funding Plan

Objective

The Engineer will develop a capital budget and funding plan with the Owners. The budget and funding plan will be used to coordinate budgeting of the Owners and the BDD Board.

Approach

This task will require Engineer to coordinate with the Owners' financial advisors and will include the following subtasks to be performed by the Engineer.

Compensation

The Engineer shall be compensated for this task on a labor and expenses basis, as described in Exhibit C.

Subtask E4.1 – Develop Capital Budget and Funding Plan

OC will review the financial plan and related documents prepared by the Owners' financial consultant and financial advisor and will prepare an initial capital budget for the project and will update the budget on a quarterly basis to reflect new cost and funding information. As the first step, Engineer will prepare a preliminary line item budget and funding plan format for review and comment by Owners. Upon receipt of Owners' comments and the Engineer's revision of the line item budget and funding plan format, the Engineer will interview Owners' financial and other staff as well as the Owners' financial advisors to assemble available financial information for the capital budget and funding plan. The design and construction cost estimates prepared by the Engineer under Task B8 will be incorporated into the capital budget and funding plan when available. Engineer will also outline a budgeting process to coordinate budgeting by the BDD board, the City, and the County.

Subtask E4.2 – Update Capital Budget and Funding Plan

On a quarterly basis, the Engineer will update the initial capital budget and funding plan prepared under Subtask E5.1. The Engineer will interview Owners' financial and other staff as well as the Owners' financial advisors to assemble current financial information for the capital budget and funding plan, as needed to prepare the quarterly update of the initial capital budget

Assumptions

- OC will obtain information from Owners' to develop Capital Funding and Budgeting Plan

Deliverables

- Meeting agenda and minutes
- Draft and Final Capital Funding and Budgeting Plan

Task E5 – Ongoing Risk Management Process

Objective

Implementation by Engineer of the Phase A risk management strategy recommendation for an ongoing risk management process for the project.

Approach

This task will require Engineer to coordinate with the Owners' insurance advisors and will include the following subtasks to be performed by the OC.

Compensation

The Engineer shall be compensated for this task on a lump sum basis, as described in Exhibit C.

Subtask E5.1 – Coordinate Owners' Insurance Advisor

OC will coordinate the implementation of the insurance performance bond elements of the Phase A Insurance and Performance Security Plan and other various inputs into the Project by Owners' insurance advisor. Engineer will work closely with the Owners' risk management and other project staff and with Owners' legal counsel in carrying out this coordination.

Subtask E5.2 – Prepare Owners' Decision-Making Plan

OC will prepare an initial plan for decision-making by the Owners' governing bodies needed to support timely project implementation and procurement. This initial plan will be monitored and updated by the Engineer as changes are made in the project schedule and as other circumstances may require.

Assumptions

- Four updates of the Owners' Decision-Making Plan will be provided by the OC

Deliverables

- Meeting agenda and minutes
- Initial Owners' Decision-Making Plan and updates

Additional Services

In addition to the Basic Services required to carry out Phases B, C, D and E of the Project, there may be a need for Additional Services that cannot be fully described or quantified at the commencement of work under this Agreement, due to inadequate information or the need for details yet to be developed. Additional Services that the Owners and the Engineer have identified that may be required during Phases B, C, D and E are generally described below. Prior to commencing work on any of these tasks, the Engineer and Owners will complete the procedures of Exhibit C for authorization of any Additional Services work.

Task BB1—Additional Tests and Investigations

If requested by the Owners, additional tests and investigations will be carried out by the Engineer that are necessary to reduce uncertainty in the preparation of the DB Procurement Documents which are not included in the Phases B, C and D Basic Services.

Task BB2 — Additional Federal Permitting Effort

If requested by the Owners, the Engineer will assist the Owners in addressing federal permits or easements not already covered in the Engineer's basic services, or that is above the level of effort provided in the Engineer's basic services.

Task BB3 — Additional State Permitting Effort

If requested by the Owners, the Engineer will assist the Owners in addressing state permits or easements not already covered in the Engineer's basic services, or that is above the level of effort provided in the Engineer's basic services.

Task CC1—Conduct Best and Final Offer (BAFO) Process

If requested by the Owners, the Engineer will conduct an added element to the Step Two RFP whereby Best and Final Offers (BAFO) are requested and evaluated prior to the selection of the preferred DB.

Task DD1—On-Call Archaeology Services

If required and requested by the Owners, the Engineer will provide on-call archaeology services for the construction phase of the BDD Project. Services may be required if archaeology discoveries are made during construction.

Task DD2—Additional Construction Monitoring

If requested by the Owners, the Engineer will provide additional monitoring of the DB Contractor's construction, either through the extended service of the RPR and/or inspectors and/or through the additional monitoring time of other Engineer personnel.

Task EE1—Funding Assistance

If requested by the Owners, the Engineer will provide coordination and support for the Owners' pursuit and administration of state and federal funds associated with the Project. The Ferguson Group will provide federal legislative, policy and appropriations support for the Buckman Direct Diversion Project.

Task EE2—Bonding Support

If requested by the Owners, the Engineer will provide assistance to the Owners with regards to engineering inputs to the process of issuing revenue or general obligation bonds to raise funds for the local costs of the Project.

Task EE3 - Operations Staffing Support Services

If requested by the Owners, the Engineer will assist the Owners in executing the Staffing Plan developed under Task B6 and the transition of operation and maintenance responsibility to the Owners after the completion of performance testing by the DB Contractor. These staffing and operations and maintenance support services by the Engineer could include:

- Assistance in identifying, recruiting and hiring qualified personnel to satisfy the staffing requirements and the O&M needs of the BDD Facilities
- Assessment and optimization of operations and maintenance during initial Owners' operation of the facilities
- Providing operations and maintenance personnel to assist directly in the operation of the BDD Facilities and to support management
- Assistance in the preparation of standard operating procedures and in the implementation of maintenance programs
- Assistance in the procurement of chemicals and outside services, such as specialized maintenance and repair contracts
- Performance of ongoing training programs
- Assistance with procurement of a full-service contract operator
- Assistance with the enforcement of equipment warranties and any other remaining obligations of the DB contractor
- Preparation of contract for separate operations and maintenance contract firm

Task EE4 – Assistance with Owners' Accounting Systems

If requested by the Owners, the Engineer will assist the Owners in identifying the conditions and requirements for the accounting of funds applicable to the Owners and/or assist the Owners in modifying or implementing accounting systems to conform to the conditions and requirements of funding agencies.

Task EE5 - Other Additional Services Requested by Owners

If requested by the Owners, the Engineer will conduct any other additional services that are not included within the basic or additional services of this agreement or amendments.

Task EE6 - Services to Complete Work Where Funds are Insufficient or Additional Work is Required or Requested on a Specific Scope Item

Additional services may be authorized by the Owners for services required or requested by Owners to expand services within a specific task, or for completion of contracted services under this Agreement when the authorized funding for satisfactory completion of the services is deemed to be inadequate.